Contextual influences on the development of resilience for leaders in the workplace

Submitted by Gemma Leigh Roberts
Birkbeck, University of London
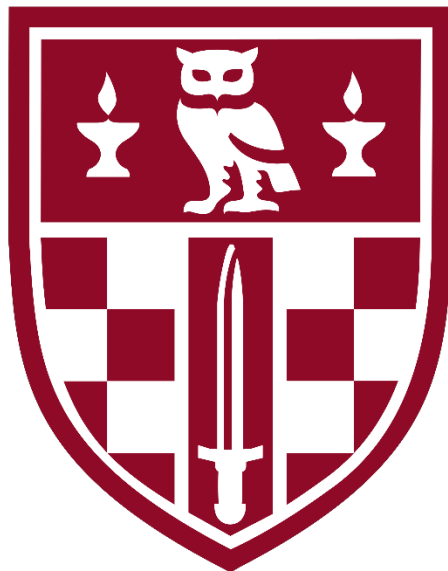
August 2022
Supervised by Dr Rachel Lewis and Dr Joanna Yarker

Acknowledgements

To Jake, the words in this thesis may be mine, but the achievement is ours. Thank you for all you've sacrificed over the last few years for me to complete this thesis. Your support, love, and belief in me has carried through in dark moments where I've felt like I can't reach my goals, thank you for being my biggest cheerleader.

To Theia and Beatrix, I will be eternally grateful to you both for the time you sacrificed with me to help me achieve my goal of completing this thesis. I hope one day when you are both big girls we'll talk about this time, and you'll know that you too can achieve whatever you set your mind to. I will be there to support you every step of the way, just like you've supported me. I love you girls, thank you.

To my supervisors Dr Rachel Lewis and Dr Jo Yarker, thank you for all the support, help and guidance you've provided. It's been a challenging journey, and you've helped me to keep going when I didn't think I'd ever get there.

To my fellow doctorate team – Clare, Denise, Hannah, Hayley, Jerry, Justin, and Tim – thank you for your support. What a team we were, and what a ride!

To my friends and family who always checked-in and offered support, thank you. It meant so much. And I'm sorry I was AWOL for so long whilst completing this thesis.

To my interviewees, thank you for so generously giving your time and perspectives. I hope your insights help to change the way we think about resilience in the future.

Abstract

This thesis aims to examine the factors that impact the development of resilience for leaders who take part in resilience interventions in the workplace. Outcomes associated with resilience interventions have been explored in previous research, but despite the increase in resilience intervention delivery for leaders, as yet we know little about how resilience is developed for this specific population. Using a mixed-methods approach, this thesis firstly examines outcomes associated with resilience interventions for leaders, and secondly explores how resilience is developed for this population.

Two studies were conducted and are presented in this thesis. The first study was a systematic literature review which examined outcomes associated with leadership interventions where resilience was included as a measure. Five papers met the inclusion and exclusion criteria, and the quality assessment process yielded a low rating. Overall, results indicated there was some evidence for the efficacy of coaching and training interventions supporting the development of resilience for leaders, although it is not clear how specific intervention design components (such as coaching or training) impact resilience, and it is not clear why efficacy is reported for some interventions and not others. Gaps in the research are identified, and are utilised to shape empirical research design, the second study presented in this thesis.

The empirical research presented is a four-wave qualitative process evaluation, design to deepen understanding in research gaps including how resilience is developed for leaders taking part in a resilience intervention, and how factors that impact the development of resilience for leaders taking part in an intervention change over time. A total of nine senior

leaders from a function within one banking institution completed the study (two dropped out, attrition data is reported), with a 55% male/45% female split, across locations including UK, USA, UAE, China and India. The multi-component intervention delivered comprised of training, coaching and group coaching elements (based on evidence-based design), and qualitative insights were gathered via semi-structured interviews at four time points over five months, pre-, during and post-intervention. Data was analysed using a thematic analysis approach, five higher order themes of individual factors, group factors, leadership factors, organisational factors and outside factors were identified, as well as themes associated with exposure to challenges and specific intervention design elements. A conceptual model of factors that impact both the development of resilience for leaders taking part in an intervention and application of resilience strategies is presented, along with future research recommendations and implications for practitioners, those who commission resilience interventions and intervention participants.

This thesis provides novel insights into how resilience is developed for leaders who join resilience interventions in the workplace and has the potential to help shape evidence-based practice for those who design and deliver resilience interventions within organisations.

Table of contents

List of tables

List of figures

Professional practice statement

As a Chartered Psychologist and Registered Psychologist, I am exempt from the first module of the professional doctorate. This thesis satisfies the requirements for part two of the doctorate. The following statement provides a summary of my professional practice as context to this thesis.

I gained my MSc in Organizational Psychology in 2008 and become a Chartered Psychologist with the British Psychological Society in 2011. I have worked in the field of occupational psychology since completing my MSc, most notably in the areas of learning and development, leadership, and resilience. I started my career working within the finance sector and I completed my MSc whilst employed at a bank. Shortly after completing my MSc, I took on a new role running a Learning and Development team, moving to a FMCG organisation. Eventually I moved on to a new challenge, running a Leadership Development function at an insurance brokerage, which was my final role as an employee.

At this point my career had become more specialised, and I was working with a leadership population. My interests had also become more specialised and I was interested in understanding the specific challenges leaders faced in the workplace and I started to deliver interventions to support leaders as they navigated uncertainty and change with their teams, which is where my interest in the concept of resilience started. It was at this stage I took the leap into self-employment and started to design and deliver evidence-based resilience interventions for employees within different organisations.

When I started the doctorate programme in September 2019, I was delivering resilience interventions for various organisations. I started the professional doctorate programme because as a practitioner, I often felt alienated from research, and I wanted to take the opportunity to immerse myself in resilience research, and learn new research skills to help me to become a better practitioner in the future.

Chapter 1: An introduction to psychological resilience at work for the leadership population

1.1 Introduction to resilience in the workplace

In 2020 much of the working world was turned upside down due to the COVID-19 pandemic. Working practices, norms and expectations changed for employees and employers, and now more than ever organisations are focusing on how they can help employees to be more resilient when facing extreme challenges and change, the likes of which may not have been faced before. Even prior to a pandemic shifting economic and working environments for much of the global population, enhancing employee resilience was an increasingly important focus for organisations to create and support a thriving workforce whereby teams respond effectively to challenges (James, 2011).

Training and coaching programmes designed to teach employees techniques to build their resilience to support the process of navigating challenges and enhance wellbeing have become a focus in the workplace over the last decade (James, 2011), particularly in an increasingly volatile, uncertain, complex, and ambiguous (VUCA) environment (Smith, 2017). As an organisational psychologist, I design and deliver resilience-enhancing coaching and training interventions, working with many different populations. Over the past five years, I have experienced an increase in demand for resilience programmes specifically designed for leaders and managers, which are an important population within a workplace resilience strategy for three key reasons.

Firstly, those with line management and leadership responsibilities are often exposed to increased pressure and decision-making responsibilities compared to other populations, resulting in leaders often facing more complex challenges. Resilience enhancing techniques are often required to minimise the chances of negative psychological impact such as stress for managers and leaders (Zunz, 1998). Secondly, the leadership population have a role-modelling influence on their teams. If leaders are not practicing resilience enhancing strategies, they are unlikely to role-model this behaviour to teams, which in turn could impact how likely their teams are to focus on building their resilience (Förster, & Duchek, 2017). Finally, research suggests a leader may have a significant impact on team mental health disorders (Nielsen, Yarker, Munir and Bultmann; 2018). If a leader is aware of how they may impact the resilience of their team members (both positively and negatively), they're more likely to actively help their teams to build resilience.

Focusing on enhancing resilience in organisations is important due to the protective nature the construct provides when employees are exposed to situations that may cause stress in the workplace (Robertson, Cooper, Sarkar & Curran, 2015), of which people are encountering more frequently than ever (James, 2011). In a changeable and volatile economic environment, the workplace can be challenging, which can lead to individuals experiencing burnout, negative health outcomes and reduced performance (Vanhove, Herian, Perez, Harms & Lester, 2016). This in turn can lead to costs to the individual (Macedo, Wilheim, Gonçalves, Countinho, Vilete, Figuerira and Ventura, 2014) and the organisation (Branicki, Steyer and Sullivan-Taylor, 2019). It's no surprise that resilience-enhancing interventions are increasingly gaining attention as part of organisational development strategies to support employees in dealing with challenges in volatile and changeable situations (Smith, 2017).

1.2 Defining resilience

Although psychological resilience is often discussed as a part of wellbeing strategies within organisations, definitions of resilience vary (Shaikh & Kauppi, 2010), resulting in comparison of resilience interventions being a complicated process. According to Fletcher and Sarkar (2013) resilience constitutes a set of characteristics that protect the individual from negative effects of stressors, and it is generally agreed that resilience refers to positive adaptation following adversity (Oshio, Taku, Hirano & Saeed, 2018; Rutter, 2018).

Robertson et al. (2015) and Pangallo, Zibarras, Lewis & Flaxman (2015) also acknowledge the dynamic nature of resilience, whereby resilience can change and develop over time, shaped by person-environment interactions. In fact, it is the malleable nature of resilience that provides an ideal opportunity to create interventions that help people to develop the construct of psychological resilience (Robertson et al., 2015), and distinguishes the construct of resilience from the fixed personality trait of hardiness (Windle, 2011), which is demonstrated by individuals with a strong sense of control, commitment and challenge (Kobasa, 1979), but does not acknowledge adaptation following exposure to adversity.

Although resilience is defined as a similar construct to psychological capital (PsyCap) which refers to personal resources utilised to overcome adversity (Luthans, Luthans & Luthans, 2004), there is a somewhat murky distinction between the two concepts. In PsyCap research, resilience is one of four components along with hope, optimism and efficacy that together form the PsyCap construct. In resilience research, the construct is researched as a

stand-alone construct, and according to Pangallo et al. (2015), the construct of resilience

can include components of hope, optimism and efficacy.

1.3 Resilience interventions in the workplace

Published research exploring psychological resilience and resilience intervention efficacy has been

steadily increasing over the last decade. Systematic review and meta-analysis papers exploring

resilience-enhancing programme efficacy have been published (Robertson et al., 2015; Vanhove et

al., 2016), providing a valuable overview of resilience intervention effectiveness.

Robertson et al. (2015) conducted a systematic review across 14 published studies analysing

the quantitative impact of resilience training in the workplace. This review found resilience

training positively impacted wellbeing and performance in some cases, although the

evidence wasn't conclusive and there were mixed results reported for the impact of

interventions on outcomes such as mental health, wellbeing and performance. Although

this review suggests partial support for the hypothesis that resilience interventions

positively impact resilience and outcomes such as performance and wellbeing, it cannot be

determined which elements of the intervention enhanced resilience, as the studies included

in the review were quantitative in design and didn't allow for exploration of how and why

particular intervention design elements affected results. Resilience interventions overall

were considered homogeneously, even though some interventions included in the study

were for designed for leaders, and others an alternative population.

A systematic review published by Macedo et al., (2014) focusing on a review of resilience interventions reported a degree of improvement in resilience following the participation in an intervention designed to enhance resilience, but the reported results were mixed. Even though some research papers included interventions conducted in the workplace, studies comprising of a student population were also included, so the findings do not necessarily translate contextually to resilience interventions at work. This paper concludes some degree of effectiveness of resilience interventions on desired outcomes but does not detail which intervention delivery elements are associated with reported results. Again, the 13 papers reviewed were all quantitative in design, which allowed for the observation of potential impact of an intervention but does not provide an insight into how or why results may have occurred across studies.

Vanhove et al. (2016) conducted a meta-analysis using 42 samples (across 37 studies) and overall found a statistically significant positive impact on health and performance for individuals who took part in resilience building interventions, when considering proximal and distal effects. This review is outcome-focused and does not determine which elements of an intervention led to reported results. Although a positive impact of interventions on outcomes was reported overall, the researchers acknowledge a potential publication bias, and recommend evaluating targeted resilience-building programmes to determine organisational value in the future, which could be achieved using a qualitative research design. In fact, Vanhove et al. (2015) acknowledge "only broad conclusions can be drawn from our findings regarding the effects of programmes on relevant outcomes within the workplace" (p.301).

The construct of resilience is also dynamic in nature, as reported by Pangallo et al. (2015) in a systematic review paper focusing on the construct of resilience through the lens of interactionism. Common measurements of resilience often focus on personal and internal factors such as adaptability, self-efficacy, active coping, positive emotions (Pangallo et al., 2015), and it is these internal factors that are often used to measure the impact of interventions. This paper found external factors such as supportive relationships and external environment also influence psychological resilience (Pangallo et al., 2015), and these external factors are less likely to be considered during intervention design. This means much of published research into intervention effectiveness does not focus on the dynamic nature of internal *and* external factors that influence both reported resilience and intervention impact.

1.4 Resilience interventions for leaders at work

Leadership has been described as a process whereby an individual guides and influences others to achieve a shared goal (Northouse, 2010). Leadership is a process rather than a trait, happens within the context of a group, and involves a leader and a group of others working towards goal attainment (Bennis & Nanus, 1985; Yukl, 2006).

According to a systematic review of leadership definitions and competencies, there are several components of leadership, including (1) influence, motivation, enablement and empowerment, (2) agent of change, (3) providing a vision for others to follow, (4) leading by example (Reed, Klutts & Mattingly, 2019).

It is important to focus on resilience for the leadership population in the workplace. Leaders have a pivotal role to play within organisations, both in regard to effectively navigating the unique challenges they face, and in helping to promote resilience across their teams, and for these reasons are often selected to take part in resilience-enhancing interventions in the workplace (Förster and Duchek, 2017). Leadership roles are often challenging and complex (Förster & Duchek, 2017), which explains why interest in building resilience for this population is growing within organisations. Research suggests there is still more to understand about how and why interventions impact the leadership population, particularly when considering dynamic internal and external factors that may affect intervention efficacy (Pangallo et al., 2015; Robertson et al., 2015). While resilience-enhancing interventions for leaders have been shown to reduce burnout (Kamath, Hoover, Shanafelt, Sood, McKee & Dhanorker, 2017), increase measured resilience and wellbeing (Grant, Curtayne & Burton, 2009), and positively impact optimism (Sherlock-Storey, Moss & Timson, 2013), reported outcomes of resilience training interventions have been mixed, and in some cases reported wellbeing and performance have not increased compared to control group comparisons for a leadership population (Abbott, Klein, Hamilton & Rosenthal, 2009).

A mixed methods study design conducted by Grant et al. (2009) found a coaching programme designed for executives to enhance goal attainment, increase wellbeing and resilience, and decrease stress and depression to be effective. Quantitative results reported enhanced resilience, whilst qualitative data suggested the intervention helped leaders deal with organisational change. This study focused on the outcomes of an intervention and was underpinned by the assumption the construct of resilience is stable and affected by personal and internal factors. In fact, the authors acknowledge that although organisational

change was an important consideration for participants, there were no direct measures of this included in the study, which was focused solely on individual perspective, not contextual factors that may influence resilience.

Coaching is a common intervention design utilised for the leadership population. Sherlock-Storey et al. (2013) used quantitative methods to determine the positive impact resilience coaching had on enhancing resilience during a period of organisational change. Researchers reported hope and optimism were increased post-intervention, although self-efficacy was not enhanced. It cannot be determined how and why this coaching intervention impacted results, and factors that contributed to intervention effectiveness are not identified. This study was not longitudinal in design, which makes is difficult to determine whether the effects of the intervention could change over time.

In a study conducted with sales managers, Abbott et al. (2009) found no statistical improvement in happiness, wellbeing or work performance when comparing the research and control groups. It is important to note this doesn't necessarily mean the intervention wasn't effective, rather the quantitative data does not support a positive correlation between intervention and reported effects. The authors propose reasons as to why there was not a significant and positive statistical effect, including not enough time passing to determine a change in outputs measured, or a high dropout rate. The authors of this paper state they are in the process of conducting qualitative interviews at the time of publication to gain a more accurate insight into the effectiveness of the training. This points to the value of utilising a qualitative research approach to determine the reasons why an intervention is, or is not perceived as being effective, particularly when exploring the internal and external

factors that may impact intervention effectiveness. This study only measures outcomes at two time points (pre and post intervention), so it is unclear of how intervention effects may change over time.

The role leadership plays in building resilience in team members is pivotal (Sommer, Howell & Handley, 2016), and leaders themselves often require specific protective factors such as resilience to minimise the possibility of experiencing burnout (Zunz, 1998). To this end, focusing on enhancing resilience for leaders is an essential part of organisational development strategy in organisations. Yet, we know little about why and how resilience interventions result in reported outputs for the leadership population. Vanhove et al. (2016) point to the importance of designing specific interventions for specific populations such as leaders and suggest it would be beneficial to "identify who will benefit from the development of protective factors and carefully consider programme design aspects in order to produce optimal and lasting programme effects" (p.300).

Published research suggests that although exploration of the impact of resilience interventions on the leader population is occurring, as yet it is not clear which elements of an intervention support the development of resilience for leaders, and how contextual factors play a role in resilience development. When resilience is noted to be positively impacted following an intervention for leaders, it is currently unclear how long these results last. For practitioners, this can make it challenging to utilise an evidence-based approach when designing resilience-enhancing interventions for leaders, as the body of evidence isn't detailed enough at present.

1.5 The dynamic nature of resilience

Research into the efficacy of resilience interventions is generally outcome-focused and state when interventions affect resilience at work, and when they do not (Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2016). We know far less about the how the workplace context impacts the outcome of resilience interventions. One of the main recommendations across all systematic reviews and meta-analysis research papers focusing on the exploring the impact of resilience interventions is the requirement to conduct research studies with a longitudinal design (Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2016), as we know little about the longer-term impact of interventions, and how resilience intervention efficacy may change over time. Vanhove et al., (2016) suggest analysing distal effects, across appropriate populations will help to determine true effectiveness of a programme when combined with "rigorous evaluation methods" (p.300). Robertson et al. (2015) recommend using qualitative research design methods in future research (such as case studies) to "accelerate the growth in understanding key features that influence the success of resilience training" (p. 557).

The dynamic nature of resilience is a research area that requires further exploration. Pangallo et al. (2015) noted that the measure of resilience often omits an appropriate measure of external factors such as support, in fact the "majority of these measures capture information relating to social support using Likert-type scale responses, which rather crudely indicate whether social support is either present or absent (or somewhere in-between)" (p.16). Vanhove et al., 2016 recommend practitioners "identify whether certain protective factors play a greater role in preventing the negative effects associated with

those particular stressors" (p. 300), which will require the exploration of how internal and external factors affect intervention outcomes. Pangallo et al. (2015) state there is a dynamic and interactionist element to measuring resilience effectively. This then leads to the question of whether dynamic and interactionist methodology applies to how effective an intervention is, or how an intervention is experienced by participants. Nielsen et al. (2018) outlined a dynamic framework designed to support healthy return to work practices in an organisational context, considering factors internal to an employee, and those that are external.

As yet, we know little about how situational factors impact resilience interventions, although a body of research into how internal and external factors affect those with mental disorders returning to work (Nielsen, 2018) is emerging, and would provide a useful and relevant framework to understand more about how internal and external factors impact resilience intervention efficacy. The theoretical framework applied by Nielsen et al. (2018) considers the individual, group, leadership, organisational and overarching social (IGLOO) factors that influence an employee's experience of an intervention and aligns with the "support" and "structure" resilience factors outlined by Pangallo et al, 2015 (p. 10). As recommended by Robertson et al. (2015), when researching the impact of resilience interventions, it's important to explicitly consider the "context of person-environment interactions" (p.558).

1.6 Thesis structure

This thesis includes five chapters. The first introduces the concept of psychological resilience in the workplace, providing the context detailing why resilience has become such an important focus within organisations. This chapter starts to explore the reasons why resilience interventions designed specifically for the leadership population are so critical in the workplace, and research that has been conducted in this area. Chapter two details the epistemological stance that shaped research design, and the methodology used throughout this thesis.

Chapter three is a systematic literature review (SLR) of the efficacy of resilience interventions on the leadership population. Results and conclusions from the SLR process informed the design of the second study, which is explored in chapter four. The empirical study (chapter four) includes the presentation of qualitative and longitudinal research detailing the contextual factors that affected the development of resilience for leaders taking part in a resilience intervention.

Chapter five details findings from each study, and includes an account of limitations, implications of research, contribution to the existing body of research in the areas of resilience and leaders, and implications for practitioners. The thesis concludes with final recommendations.

1.7 Research aims

The aim of this thesis is to explore the impact of resilience interventions on the leader and manager population and to add to the body of research in this area and support

practitioners in designing evidence-based resilience interventions. Initially, this involved conducting a systematic literature review to examine current published research in this area. In particular, the SLR explored:

- The efficacy of interventions designed to enhance resilience for leaders

- How intervention design elements (such as coaching and/or training) affect the development of resilience for leaders

- The distal effects associated with taking part in a resilience intervention for leaders

The second study was designed based on conclusions drawn from the systematic review and explores the factors that affect how leaders build resilience following a training and coaching programme designed to enhance resilience. This research adds to the body of literature in the area of resilience from a leadership viewpoint by taking a qualitative approach and is a natural progression from exploring *if* an intervention is effective, towards concluding *how* and *why* an intervention is effective, in the context of understanding the impact of dynamic internal and external factors that may affect intervention efficacy.

Key research questions in the second study include:

- What personal (internal) or contextual factors influence the development of resilience for leaders taking part in a resilience intervention?

- What factors affect the development of resilience for leaders taking part in a resilience intervention at different points in time?

The outcomes from this research and the thematic analysis undertaken provided an understanding of key themes that leaders perceive to impact the development of resilience whilst taking part in a resilience intervention, and an understanding of how these themes

may change at different time points. These findings will benefit practitioners who wish to

carry out resilience-enhancing interventions and organisations who want to understand

how to effectively support leaders in enhancing their resilience. Leaders who take part in

resilience interventions will also gain clarity about the factors within and around them that

could help to support or hinder the development of resilience.

Chapter 2: Methodology

This thesis set out to examine how leaders develop resilience. A systematic literature review (SLR) was conducted to understand previous research associated with resilience coaching and training interventions designed for leaders in organisations. The results of the SLR highlighted literature gaps in the areas of understanding how resilience is developed for leaders who take part in resilience interventions, how personal and contextual factors influence the development of resilience for this population, and how this changes over time. These results informed the design of empirical study, which set out to explore how resilience is developed in leaders who took part in a coaching and training intervention over a five-month period.

2.1 Epistemological approach

A paradigm is a concept that has been described as an individual's beliefs that form their view of the world (Kuhn, 1970). A research paradigm describes how a researcher's conscious and unconscious beliefs, perspective, and view of the world impacts how they conduct research (Krauss, 2005), which results in four philosophical assumptions (Denzin, 2011).

Ontological assumptions relate to beliefs about the kind of world being investigated, ranging in a continuum from "there is only one truth/objective reality" to the other end of the scale "the world is mostly subjective and open to different interpretations" (Crotty, 1998, p.8). The researcher's paradigm also influences epistemological assumptions, which is a theory of knowledge relating to "how we know what we know" (Crotty, 1998, p.8). According to

Schommer (1994), epistemology can be categorised into a belief system consisting of five distinct domains: (1) certainty of knowledge, (2) structure of knowledge, (3) source of knowledge, (4) control of knowledge acquisition, (5) speed of knowledge acquisition, although the speed and control of knowledge acquisition have been contested as components of epistemology and referred to as learning ability by Hofer and Pintrich (1997). Axiological assumptions refer to how an individual's values and value judgements shape the research process (Denzin, 2011), and methodological assumptions are shaped by the researcher's experience in collecting and analysing data (Slife, Williams & Williams, 1995).

Ontological, epistemological, axiological and methodological assumptions underpin research philosophies (Alharahsheh & Pius, 2020), which influence how research is conducted and analysed. A positivist research philosophy is broadly aligned with quantitative methodologies and takes the view that reality is objective an observable (Alharahsheh & Pius, 2020; Braun & Clark, 2013). Positivism is concerned with empirical methods of research and relies on scientific evidence, such as statistics and experiments to explain research outcomes (Creswell & Poth, 2016). Although positivism may take different forms (Crotty, 1998,) it is generally agreed that positivism takes a deductive approach to make generalisations and predictions based on observable realities (Levin, 1988).

If positivism is at one end of the research philosophy continuum, interpretivism is at the other. Interpretivism assumes that meaning is subjective and allows for the exploration of individual perspectives (Alharahsheh & Pius, 2020). Research underpinned by an interpretivist approach acknowledges there is more than one way of viewing and interpreting the world, which points to multiple versions of truth and realities that cannot

be measured, but rather require interpretation (Finlay, 2014). Interpretivists believe individuals use stories and narratives to create meaning, resulting in perceptions and interpretations of a reality (Saunders, 2009). An interpretivist approach to research generates a rich understanding of perceptions and interpretations and maintains a researcher's beliefs and assumptions will influence the exploration of an individual's reality. An interpretivist researcher is not separate from the research (Alharahsheh & Pius, 2020).

Critical realism has been described as the middle ground between positivism and interpretivism and assumes an ultimate reality but acknowledges "the way reality is experienced and interpreted is shaped by culture, language and political interests" (Braun & Clark, 2013, p.329). This approach views knowledge as socially influenced, whereby social structures and mechanisms (which are unobservable) cause observable events (Saunders et al., 2007). To understand reality according to a critical realist approach, we would need to explore three components: observable experiences and events, unobservable experiences and events, underlying mechanisms and structures (Saunders et al., 2007).

Pragmatism uses the "most appropriate methods for addressing the research question" (Creswell & Poth, 2016, p.34). A researcher taking a pragmatist approach has an "appreciation for diverse approaches to collecting and analyzing and the contexts in which research takes place" (Creswell & Poth, 2016, p.34). Pragmatists do not necessarily believe there is one fixed way to view the world, they utilise a wide range of research methods and may embark on qualitative, quantitative or mixed method research designs to meet research requirements (Saunders et al., 2007).

As a practitioner, I take a pragmatic and practice-led approach to research, whereby my epistemological stance is shaped by the specific question. The systematic literature review (SLR) and empirical research chapters within this thesis were conducted using different epistemological approaches due to the predominantly quantitative data available to include in the SLR, and recommendations made in the SLR which suggested a future focus on qualitative research.

When conducting the SLR presented in this thesis, I took a positivism approach due to the nature of the research question and the data presented in the papers included. The studies were quantitative in design (the one mixed methods study didn't present any qualitative data relating to the construct of resilience), and there was not a focus in any of the studies on understanding how resilience was developed in an intervention setting, rather the quantitative outcomes for leaders taking part in interventions. A positivist stance aligns with the analysis of quantitative research and explores reality through a systematic collection of data and assumes a clear and obvious relationship between the world and our view of it (Braun & Clarke, 2013; Saunders et al., 2007), which aligned with the measured outcome approach detailed in the studies included in the SLR. One of the criticisms of the SLR presented in this thesis was the positivist stance, which does not allow for the exploration of how context can influence outcomes, which was identified as a gap in research and addressed in the empirical research process described in this thesis.

This empirical research presented in this thesis is underpinned by a critical realism approach, which doesn't assume there is one reality about how people experience the world and gain knowledge, and states there is no one method to understand the reality of a

situation. Rather, critical realism research assumes context shapes an individual's experience, which is inclusive of both participants within studies, and the researcher conducting the study (Braun & Clark, 2013). Where a positivist approach requires an objective collection of data and seeks to eliminate bias, (Saunders, Lewis & Thornhill, 2009), critical realism approach proposes knowledge is shaped by individual perspective (Braun & Clark, 2013). This approach was different to that taken during the SLR process and was influenced by the research question.

The epistemological approach chosen for empirical research was the most appropriate given recommendations proposed in previous systematic reviews and meta-analysis papers suggesting qualitative research would help to broaden understanding of how resilience is developed (Robertson et al., 2015; Vanhove et al., 2016), and deepen understanding of both the individual and contextual factors that impact the development of resilience, providing a broader and accurate picture of how resilience is developed (Pangallo et al., 2015). Previous research exploring resilience interventions for leaders in a workplace setting has been predominantly quantitative in design, which would suggest a positivism approach. This points to a gap in research whereby both personal and contextual factors that impact resilience development for leaders are explored, as are perspectives and experiences of individuals taking part in resilience interventions.

2.2 Systematic literature review methodology

The systematic literature review (SLR) is an established method of research in the field of resilience development in the workplace (Robertson et al., 2015; Pangallo et al., 2015), and

is defined as a methodology that identifies and selects existing studies based on a pre-defined criteria, analysing and synthesising data to report findings against evidence statements, allowing for conclusions to be drawn about what is known and not known in a particular research area (Denyer & Tranfield, 2009). A SLR provides an evidence-based approach to research, allowing for patterns across research to be explicitly explored, quality of research in a particular area to be assessed, and broad recommendations for future research to be proposed (Denyer & Tranfield, 2009). Results from SLRs support an evidence-based approach to scholarly knowledge management and intervention practice (Rojon, Okupe & McDowall, 2020).

Previous SLR's focusing on resilience development have been conducted, exploring data from a homogeneous workplace population. This method has resulted in conclusions focusing on design and outcomes of resilience interventions (Robertson et al., 2015) and findings from a review of resilience measures (Pangallo et al., 2015), which have informed research design throughout this thesis. As yet, a SLR exploring how resilience is developed for the specific leadership population has not been published, highlighting a research gap this thesis seeks to address.

It is recommended a SLR is conducted before conducting empirical research, providing the opportunity to inform empirical research questions and design (Xiao & Watson, 2019). A SLR was conducted as part of this thesis to provide a deep understanding of existing research in the area of resilience interventions for a leadership population. Research design was explored, as were factors including outcomes associated with interventions for leaders,

quality of papers included in the SLR, and gaps in existing research. Findings informed the design of empirical research detailed in this thesis.

As outlined by Briner and Denyer (2012) and Rojon et al., (2020) a SLR is used to conduct a rigorous review of existing literature. The steps include:

1) Review of scope and questions

2) Literature searches

3) Review and selection of papers yielded from searches

4) Systematic data extraction

5) Analysis of data and synthesis of data extracted (adapted from Rojon et al., 2020)

6) Quality analysis (adapted from Briner & Denyer, 2012)

There are many benefits associated with conducting a SLR, as proposed by Rojon, McDowall and Saunders (2011). Firstly, the process of conducting a SLR promotes transparency, replicability, and explicitness, particularly when compared with a traditional literature review. Secondly, academic rigour is improved using a panel to review research questions and each stage of review, analysis, and synthesis. Finally, explicit and agreed inclusion and exclusion criteria improves the quality of research, ensuring the research question is explicitly addressed. There is however a place for researcher judgement when conducting as SLR, as proposed by Rojon et al. (2020), it is important for researchers to adapt the SLR process to meet specific research objectives and criteria (Briner & Rousseau, 2011).

It has been argued however, that evidence presented in research is inherently subjective and shaped by values, politics, and knowledge (Cassell, 2011; Rojon et al., 2020), which can

result in an inconclusiveness of findings. Upon reflection, whilst conducting the SLR for this thesis, it was times challenging to compare data across studies, as interventions were designed and deployed with such diversity, which can make it challenging to compare research and results, potentially leading to inconclusive results reported as part of the SLR process. SLRs have been challenged by some researchers due to the perceived reductive stance whereby strict inclusion and exclusion criteria can eliminate the inclusion of studies that may provide an interesting insight aligned to the research question (Cassell, 2011).

Conducting a SLR was a requirement for completion of this thesis and was the most appropriate method to gain an understanding of previous studies that have been published focusing on resilience interventions for the leadership population. This process enhanced knowledge, and highlighted gaps in research (as explored in chapter 3) which informed in empirical research design, as detailed in chapter 4 of this thesis.

2.3 Empirical study methodology

A previous SLR exploring resilience for a homogeneous population proposed a gap in research focusing on understanding how resilience is developed for individuals taking part in interventions. Following the process of conducting a SLR exploring resilience interventions for leaders in the workplace, it became clear that this recommendation could be extended to the leadership population, where there is limited evidence detailing how resilience is developed over time for leaders who take part in resilience interventions.

To understand how resilience is developed for leaders, there is a need for a deeper insight into experience of developing resilience when taking part in an intervention, which lead to a process evaluation approach being taken to understand mechanisms that influence intervention outcomes (Abilgaard & Nielsen, 2016), allowing for the exploration of contextual factors that influence how resilience is developed for leaders taking part in a resilience intervention. This also pointed to a qualitative approach, whereby leaders could share their experiences and perspectives on factors impacting the development of resilience and application of resilience strategies, resulting in an exploration of rich and subjective data which wouldn't have been possible with a quantitative design. The research was also longitudinal in design to address recommendations from previous research pointing to the requirement to further understanding of how the dynamic construct of resilience is developed over time.

2.3.1. Data gathering

Research design is shaped by the questions the researcher intends to address, which in the case of this research included:

- What factors impact development of resilience for leaders during and after an intervention?
- What factors impact application of resilience strategies for leaders throughout an intervention?
- How do these factors change over time?

Semi-structured interviews were used to gather data (Braun & Clark, 2013), which allowed for a personal and detailed exploration of factors impacting the development of resilience and application of resilience strategies throughout the intervention when compared to alternative data collection methods such as focus groups. Interviews allowed participants the space to talk through sometimes challenging and confidential experiences, and the semi-structured approach provided the opportunity to explore participant perspectives and experiences in a focused manner, but also allowed for exploration of factors outside of the framework used to shape questions.

Interview questions were based on a framework developed by Nielsen et al. (2018), which indicated broad factors within individual and contextual boundaries that could impact the development of resilience and practice of resilience-based strategies for leaders taking part in an intervention. From an interview perspective, it was important to utilise the framework as guide to shape questions, but not in a way that dominated conversation. Careful consideration was taken to ask open-ended questions, allow time for pauses and not fill silences, and to actively listen to responses to shape the development of further questions, rather than sticking to a set script.

Participants were interviewed at four time points – pre-, during, and post-intervention – to gather longitudinal data and understand how resilience is developed over time for leaders taking part in a resilience intervention, and to understand how the factors that impact resilience development change two months post-intervention – which is all data that has not been gathered in previous research in this area. Interviews were conducted remotely, in part due to Covid-19 restrictions, but also due to the diverse geographical locations of

participants, which included United Kingdom, Hong-Kong, India, United Arab Emirates and Unites States of America.

Recruitment was conducted using a convenience sample, consisting of leaders taking part in a coaching and training programme designed to develop resilience across a global function within a banking organisation. As recommended by Braun and Clark (2013), careful consideration was made where possible to ensure diverse demographics were represented, in this case gender, leadership experience and geographical location.

All participants were informed of how their data would be analysed and reported and provided consent. Ethical codes of conduct, as stipulated by the British Psychological Society and the Health and Care Professions Council were adhered to, and were made explicit to participants, which is an important step in the recruitment process to ensure participants are clear on what to expect from the taking part in the intervention and are comfortable in how perspectives and insights they share will be used to shape research results.

There is not a set recommendation for participant numbers, this should be dependent on the research question and sample available (Braun & Clark, 2013). In this empirical research, participants were interviewed at four time points, so the aim was to work with a complete data set of eight participants who had taken part in four individual interviews each. Allowing for attrition, twelve participants were invited to join the research group, eleven people part-completed interviews and nine participants completed all four interviews.

2.3.2 Data analysis

A theoretical thematic analysis approach was used to analyse the data. The aim of this method is to identify and understand themes in relation to a research question, for a particular dataset (Braun & Clark, 2013). A theoretical approach was taken, whereby the Nielsen et al. (2018) IGLOO framework, which incorporates workplace resources that predict employee wellbeing and performance and support a healthy return to work following the experience of mental health disorders, was used as a guide in the data analysis process. The factors that shaped analysis and acted as high order themes included: individual, group, leader, organisation, and outside organisation, and patterns of meaning were explored in each of the sub-themes that emerged within the five higher order themes.

The interviews took place using Microsoft Teams, the recordings were transcribed using NVivo transcription programme. Transcriptions were edited by listening to the interviews whist reviewing the script, final transcription documents were saved in NVivo, and sorted into folders for each interview time point (from one to four). Once the transcripts were finalised, familiarisation with the data commenced, whereby the researcher reviewed each script multiple times to identify key patterns.

The coding process then commenced, researchers carefully reviewed each interview transcript and highlighted areas of text that were important or provided meaning in relation to the research questions. Text that related to both the IGLOO (Nielsen et al., 2018) framework, and additional potential themes, and changes over time that were discussed by participants were focused on in the coding process. A complete coding approach was taken,

whereby all data relevant to the research data was coded, with the aim of synthesising codes later in the next step of analysis.

As recommended by Braun and Clark (2006) themes were identified as they pointed to important information that related to the research question and represented a patterned response across the data set. As explained by Braun and Clark (2013), each code captured one idea, and as these were reviewed and grouped, it led to the proposal of themes – a central organising concept – and the production of a map of themes and sub-themes.

This was again reviewed by multiple researchers, some sub-themes were merged or moved into alternative higher order themes which were created in line with the IGLOO framework (Nielsen et al., 2018). Codes that didn't provide enough supporting evidence were saved but not included when themes were reviewed. Themes were named in a way that made each theme unique and explicit, and defined to ensure meaning of each theme was easy to understand and describe to others.

The codes and themes presented informed the analysis process, which entailed writing up the data in a way that answers the research question and tells a rich and compelling story in the process. Higher order themes were shaped by the IGLOO framework (Nielsen et al., 2018), but codes identified were not limited to this framework. The higher order themes provided a useful way to start to organise themes and were relevant to the data set and research question, but these did not restrict the data analysis process, the higher order themes were a guide rather than a criteria. In addition to the five higher order themes and

the 12 sub-themes that sat within these, two additional themes that were not part of the IGLOO framework were proposed.

Attrition data was not utilised in the full results presented but was analysed in the same way and described separately in the study results. According to Snape, Meads, Bagnall, Tregaskis and Mansfield (2016) the reporting of attrition data is an important part of the process when reporting results, strengthening the quality of research, and also in this case it provided an alternative insight into key themes that emerged for those that did not complete all interviews (which is potentially interesting data in itself).

2.4 Reflexivity

2.4.1 SLR

One of the benefits of taking part in a professional doctorate programme is the opportunity to develop new skills. As a practitioner, published research underpins my approach to designing interventions, but prior to joining the doctorate programme, I had limited opportunities to conduct rigorous research. Throughout this programme, I have had the opportunity to learn how to conduct a SLR and to carry out empirical research.

It was both interesting and challenging learning how to conduct a SLR, whilst at the same time putting new skills into practice. Due to the limited number of papers included in the SLR, it was challenging to draw conclusions across research papers, as each study differed in design, objectives, measures, and resilience definition. I found it challenging and limiting at

times to report on quantitative data against evidence statements, and although I don't naturally sit with a positivism stance, I followed the process in this way as the research question required me to take this approach. I was aware that my epistemological stance could impact both my experience of conducting a SLR, and the development of research skills in this area, so I committed to learning the process and conducting a thorough SLR. Overall, the experience of conducting a SLR has taught me valuable skills I will be able to use in future practice, and I will also be able to critically analyse SLRs, which will inform future intervention design.

2.4.2 Empirical research

I encountered a challenging ethical consideration when conducting the empirical research. I was unsure whether it would pose a conflict of interest if I ran the intervention and conducted the interviews (which was the only option available as I was conducting this research on my own, not with a team). I was concerned that those taking part in the programme may not be honest in interviews. However, as the interviews were focused on personal and contextual factors that impact the development of resilience for leaders taking part in an intervention (and not perceptions of the intervention itself), honesty didn't seem to be an issue. This is something I had to monitor though, and I questioned myself many times around whether participants were comfortable sharing their thoughts with me. Feedback suggests they were, but I would be naïve to not acknowledge this in both conducting research and writing it up.

My perspectives on resilience as a construct have been shaped by personal experience and many years of delivering interventions on the topic. I was aware that my view of resilience from a personal perspective could shape the group coaching conversations, so I was cautious about sharing my views on how resilience 'should' be developed, and focused on sharing evidence-based strategies and tools (as directed by the curriculum utilised). There were of course biases involved in choosing a curriculum to shape the intervention, and the Mayo Institute curriculum aligns closely with my view of resilience. Intervention participants were however directed to additional supporting materials that were based on alternative theoretical methodology to broaden their perspective on the concept of resilience.

Throughout the process of conducting empirical research, I was aware my biases and perspectives had the potential to shape the questions I asked, and how they were asked. I worked to address this by reflecting before and after each interview, practicing not filling silences, and asking questions based on the direction the interviewee was taking the conversation. It was useful to have broad questions to refer to, but it was important that these didn't limit the conversation.

Data coding took a lot longer than expected (there were 40 interviews in total to review) and required more concentration and data immersion than I predicted. Allowing adequate time to immerse myself in the data was both necessary to conduct the coding process effectively and proved to be a worthwhile use of time when it came to developing themes, as I felt I knew the data in detail and depth. I also had to challenge my pre-conceived ideas regarding theme development when I had to let go of themes. It felt challenging at this

stage of data analysis to disregard interesting and meaningful data, but ultimately, I had to

be pragmatic and report on the most prominent themes.

My research approach is practitioner-led, so I adjust my epistemological approach

depending on the research question. Naturally, I'm more aligned with a contextualism

approach and I believe context shapes experience and perspectives, which made the

empirical research a more enjoyable process for me. This realisation did however require

me to challenge myself to ensure research design was based on recommendations from

previous research rather than my desire to conduct research in a way that felt comfortable

for me. In many ways, I'm pleased the SLR process wasn't so enjoyable for me, as I consider

it important to broaden my understanding of research approaches and skills outside of my

comfort zone.

During the research design process, I assumed that the IGLOO framework would provide a

valid basis for interview questions. This framework aligns with both my view of the world,

and previous research which pointed to contextual and individual factors that influence the

dynamic construct of resilience. I took time to carefully consider whether this was the

correct model to utilise, and I compared it to using an alternative person-environment fit

theory, which also aligns with the research question, but doesn't necessarily allow for the

granularity of exploring multiple contextual factors, such as group, leader, organisation, and

outside factors.

I was aware that I was taking a deductive approach to interviewing, and I consciously

allowed space during the interviews to discuss factors that were not aligned with the IGLOO

framework, resulting in two additional factors being prominent themes in the results, allowing for the IGLOO framework to shape results, but not to restrict theme emergence during the data analysis process. Had I not used the IGLOO framework to shape interview questions, different themes may have been presented in the results. In the initial stages of the thematic analysis process, I used my judgement to identify key themes, which was shaped by my experience as a practitioner, published research, and my perspective on how resilience is developed. I also relied on additional researchers to validate my approach and results, and made changes where necessary to ensure we all agreed on codes and themes presented.

I chose to use a theoretical thematic analysis approach because research into the IGLOO framework indicated the framework fitted well with the individual and contextual factors I wanted to explore as potentially impacting how resilience is developed for leaders taking part in an intervention. Grounded Theory would have also been a suitable approach, but this would have been a deductive approach, which I decided would add complexities to the coding process, which was a consideration because I had forty interviews to conduct and code (I wasn't working with a team to do this). I also considered taking an Interpretative Phenomenological Analysis (IPA) approach to data analysis, due to the richness of data and deep insights that can be collected. On reflection, however, I felt this process could complicate the data analysis process and would be better suited to a study that wasn't conducted over four time points. Also, although I was interested to learn about participant lived experiences, I also wanted to understand why these experiences may be occurring.

Chapter 3: Resilience intervention outcomes for leaders and managers: A systematic literature review

3.1 Abstract

Psychological resilience is a dynamic construct shaped by the interaction between individuals and the environment and has been described as positive adaptation following the exposure to adversity and stressors. Previous research has suggested leader and manager populations benefit from focusing on building resilience due to unique pressure and challenges this population face, and the potential influence they have over the development of resilience for their teams. This study aims to systematically review outcomes of interventions that measure resilience for leaders and managers in the workplace. Five studies were identified that met the inclusion criteria following a rigorous selection process. Results from across these studies provide some evidence for the efficacy of coaching and training interventions in building resilience in leaders, although the evidence is limited due to inconsistent findings across studies, limited number studies included and low quality of papers as categorised in a quality analysis process. Overall, it is not clear how specific intervention design components impact resilience, and conclusions cannot be drawn as to why efficacy is apparent in some studies and not others. This review provides suggestions for how future research can add to the limited research in this area, and implications for practical application of findings is discussed.

3.2 Introduction

The focus on enhancing psychological resilience for employees within organisations has grown significantly over the last decade (James, 2011), particularly as we navigate challenging, changeable and complex workplace dynamics (Smith, 2017). As the world of work became increasingly volatile, uncertain, complex and ambiguous (VUCA) (Rodriguez & Rodriguez, 2015), organisations have started to look at how leaders and employees can be equipped with the tools they need to navigate change and challenges in an unpredictable landscape, which often entails focusing on helping people to build psychological resilience.

3.2.1 Resilience as a construct

The interest in resilience as a construct has grown in recent years (Johnson, Panagioti, Bass, Ramsey & Harrison, 2017). Early studies of resilience have roots in developmental psychopathology theory (Shaikh & Kauppi, 2010), focusing on the process of children being exposed to stressors in early life and overcoming extreme adversity to function and potentially thrive in later life (Garmzey, 1991; Luthar, Cicchetti & Becker, 2000; Masten, Best & Garmzey, 1990; Masten, & Narayan, 2012). The body of research developed to explore the difference between acute and chronic stressors on measured resilience, whereby chronic stressors were found to have a larger disruptive impact on adult functioning (Bonanno & Diminich, 2013).

Research into resilience in adults followed, focusing on theories of resilience centred around the personality trait of hardiness (Kobasa, 1979), positive adaption following adversity

(Garmzey, 1991; Matzen, Best & Garmzey, 1990; Masten, Powell & Luthar, 2003), processes and mechanisms underpinning resilient behaviour (Fergusson & Horwood, 2003; Rutter, 1985), functioning in the presence of adversity and stress-resistance (Cicchetti & Garmezy, 1993; Masten al., 1990; Masten, 1994) and recovery from trauma and reconfiguration (Richardson, 2002; Masten, 2001).

As resilience research has progressed, an interest in resilience in the workplace has built (Robertson et al., 2015), in particular in the area of training employees to be more resilient to deal with change and challenges effectively. Various training and coaching methods have been explored to understand whether interventions influence individual resilience (Crabtree-Nelson & DeYoung, 2017; Crowder & Sears, 2017; Foster, Cuzzillo & Furness, 2018; Holmberg, Larsson & Bäckström, 2016; Kamath, Hoover, Shanafelt, Sood, McKee & Dhanorker, 2017; Sood, Prasad, Schroeder & Varkey, 2011), and conclusions can be drawn to suggest resilience can be developed in working contexts following interventions in some circumstances (Robertson et al., 2015; Vanhove et al., 2016).

Resilience is a complex construct to measure as it involves traits, outcomes and recovery processes (Oshio et al., 2018) and exposure to stressors, which will range in intensity and source (Johnson et al., 2017). Although definition and meanings of resilience vary (Shaikh & Kauppi, 2010), it is generally agreed that resilience refers to positive adaptation following adversity (Oshio et al., 2018; Rutter, 1985) by applying psychological processes and behaviours (Robertson et al., 2015) that form protection from the potentially negative effects of stressors (Fletcher & Sarkar, 2013). The dynamic nature of resilience is recognised whereby an interaction between a person and their environment shapes the level of

resilience measured and experienced for individuals (Pangallo et al., 2015), and resilience

experiences and reserves can change over the course of a lifetime (Windle et al., 2011). In

order to effectively measure the impact of resilience interventions it has been claimed there

needs to be an agreed definition and construct classification used in future research

(Macedo et al., 2014; Robertson et al., 2015).

3.2.2 Related constructs

Not only are definitions of resilience broad, the relationship to similar constructs is also

complicated. Resilience has been compared to the personality construct of hardiness, which

refers to strong commitment and control to overcome challenges (Kobasa, 1979). Early

research in the area of resilience at times referenced resilience and hardiness

interchangeably, so much so that the search database PsychINFO has merged the two

terms. Windle (2011) however made a clear distinction between hardiness, which is a stable

personality trait and resilience, which can change over time in a dynamic way and relates to

the process of positive adaptation following exposure to adversity.

There are also similarities in published literature between the concepts of resilience and

psychological capital (PsyCap), which was born out of the positive psychology movement

and refers to personal assets an individual has at their disposal (such as resilience, hope,

optimism and efficacy) that can be used to overcome adversity. PsyCap is a state (rather

than trait), so the construct is changeable and can be developed (Luthans, Luthans &

Luthans, 2004; Ghosh, Shuck, Cumberland & D'Mello, 2019).

Resilience can be described as a similar construct as PsyCap, and the distinction is often challenging to conceptualise. In fact, resilience is stated as one of four components along with hope, optimism and efficacy that together make up the construct of PsyCap (Luthans, Avey, Avolio, Norman & Combs, 2006). However, research carried out by Pangallo et al. (2015) found hope, optimism and efficacy to be components of the construct of resilience. This means theoretically the constructs of PsyCap and resilience categorise the components of hope, efficacy and optimism in different ways: PsyCap as four equally weighted individual components that together create the construct of PsyCap (Luthans et al., 2006), and resilience as three components that help to create the higher-order construct if resilience (Pangallo et al.,2015).

Grit is a trait that has been aligned with the construct of resilience in literature (Matthews, Panganiban, Wells, Wohleber & Reinerman-Jones, 2019). Grit is defined as perseverance and passion for long term goals (Duckworth, Peterson, Matthews & Kelly, 2007), and due to the focus on overcoming adversity by drawing on the internal resources of passion and perseverance, is often aligned or compared with the construct of resilience. The factors that make up the concept of grit are however simplistic in nature when compared to the perhaps complex constructs of resilience as synthesised by Pangallo et al., (2015).

3.2.3 Development of resilience

There is still more to learn about how resilience is developed, research has indicated resilience is malleable, dynamic, changeable, and trainable (Macedo et al., 2014; Pangallo et al., 2015; Robertson et al., 2015; Vanhove et al., 2016), which has supported a focus on

training and coaching resilience interventions in the workplace (Kim, Yun, Park, Park, Ahn, Lee, Kim, Yoon, Lee, Oh, Denninger, Kim & Kim, 2018; McDonald, Jackson, Wilkes & Vickers, 2013; Rose, Buckey Jr, Zbozinek, Motivala, Glenn, Cartreine & Craske, 2013).

Pangallo et al. (2015) carried out a systematic review of conceptual and methodological measures of resilience, and identified themes such as adaptability, self-efficacy, active coping, positive emotion, structured environment and supportive relationships as key factors that together build the construct of resilience. Many of these factors are personal resources (such as adaptability and self-efficacy), and some are external (such as support and structure), which supports the argument that resilience is built within the context of an interaction between a person and the surrounding situation or environment (Rutter, 2006; Shaikh & Kauppi, 2010). All of the factors highlighted by Pangallo et al., (2015) can be measured and due to the dynamic nature of resilience whereby resilience can change and develop over time within differing contexts (Pangallo et al., 2015), techniques to enhance resilience through coaching and training can be effective at work (Robertson et al., 2015).

A correlation between resilience interventions and a positive impact on individual, team and organisational outcomes has been documented in previous systematic review and meta-analysis literature. A systematic review conducted by Robertson et al. (2015) across 14 published studies found evidence to support the hypothesis that resilience training within organisations can enhance resilience and positively impact performance and wellbeing for those taking part. This is particularly important today given the changeable and challenging working environment many of the global population have found themselves in since navigating a pandemic and are critical areas of focus at work for both the individual who can

reap the benefits of improved wellbeing and performance, and the organisation which is responsible for promoting wellbeing and helping employees to remain focused on performance during periods of extreme change.

Of the studies included in the review some interventions resulted in positive outcomes that can impact individuals (such as mental health and subjective wellbeing), teams (such as social skills) and organisations (such as performance and productivity), some of the time. Results were mixed and the evidence inconclusive. Although this systematic review does not provide an insight into how or why some interventions have the desired effect of enhancing performance and wellbeing, it does suggest these outcomes are potential benefits of taking part in a resilience intervention. Robertson et al. (2015) conclude resilience interventions "may have beneficial consequences" (Robertson et al., 2015, p.553).

Another systematic review focusing on the impact of resilience interventions stated most studies included reports of "some degree of improvement in resilience-like variables" (Macedo et al., 2014, p.1). Again, reported results were mixed, conclusions were drawn from a review of 13 papers, but it is not clear which elements of resilience interventions influence the reported results. Although some of the interventions included in this review took place in the workplace, some consisted of student populations, so it is unclear whether the conclusions drawn from this review could contextually translate to be applicable exclusively in a workplace environment.

It was difficult to draw comparisons between studies due to the lack of standardisation of both the definition and measurement of resilience. Macedo et al. (2014) found resilience

interventions have the potential to enhance resilience, but further research is required to understand the outcomes associated with resilience training programmes. The authors also recommend a longitudinal research design and improved study design in the future (such as randomised observational trails), which is echoed in conclusions made by Robertson et al. (2015) who clearly state intervention design needs to be of a higher standard in the future.

Similarly, a meta-analysis focusing on the impact of resilience-building interventions at work concluded "resilience-building programmes have had a statistically significant, albeit modest, effect across health and performance criteria" (Vanhove et al., 2016, p.296). This meta-analysis was conducted using data from 37 studies (and 42 samples) and found the individual and organisational outcomes of health and performance were significantly and positively correlated for those that took part in interventions (taking into account proximal and distal effects). Again, it isn't clear from this review how or why interventions may have created a positive impact, but the statistical analysis provides a strong argument to suggest resilience interventions have the potential to positively impact health and performance.

Drawing on evidence from previous meta-analysis and systematic reviews it is clear there are some gaps in published research. It is not clear which intervention delivery methods (such as coaching or training, or online versus face-to-face delivery) are more likely to impact desired intervention outcomes (Robertson et al., 2015). Longer-term outcomes associated with taking part in resilience programmes are inconclusive (Macedo et al., 2014; Vanhove et al., 2016). It also cannot be determined whether specific working populations who take part in resilience building interventions respond to the intervention in specific

ways, and are likely to report differing outcomes, which has become a prominent focus in recommendations for future research (Robertson et al., 2015; Vanhove et al., 2016).

3.2.4 Resilience in leaders and managers

Leaders are defined as individuals who guide and influence others to achieve shared goals (Bennis & Nanus, 1985; Yukl, 2006), and managers can similarly be defined as influencing people to achieve common goals (Goffee & Jones, 2000; Jago, 1982). In published literature, the terms manager and leader are often used interchangeably due to the commonalities within definitions for both leaders and managers, namely the focus on motivating and inspiring others to reach goals (Bennis & Nanus, 1985; Goffee & Jones, 2000). It is also common amongst published research for participant management and leadership levels to lack discussion (Roberts, Yarker & Lewis, in prep), which can make it challenging to determine whether participants would fit within a traditional management or leadership definition.

Leaders, line managers and supervisors are often targeted to take part in resilience building interventions in the workplace (Förster, & Duchek, 2017) as they are exposed to more complex challenges and increased pressure when compared to other working populations, and resilience is reported as a buffer to the negative impacts of stress for managers (Zunz, 1998). The systematic reviews and meta-analysis studies that have focused on resilience interventions so far have considered all employees as a homogeneous population, so the outcomes associated with leaders and managers taking part in resilience interventions remain unclear at present.

Leaders also have an influential role in creating a culture of wellbeing and productivity at work, and they have the potential role of enabling or moderating resilience for team members within their reporting lines (Förster, & Duchek, 2017). Research looking at resilience interventions for the leadership population is important not only to understand the impact on leaders and managers taking part, but also to understand how participants may impact team resilience, as those in a leadership population have the potential to significantly impact mental health disorders for those in their teams (Nielsen et al., 2018).

This review aims to systematically compare outcomes associated with resilience enhancing interventions for leader and manager populations to further understanding in this area. Primarily this review will explore how resilience has been developed in leaders, but will also ask the following questions to help develop a clear picture of what existing research tells us about developing resilience for the leader and manager population:

1. What is the evidence for developing resilience for leaders and managers?

2. What mechanisms have been used to develop resilience for leaders and managers?

3. What are the outcomes of interventions designed to enhance resilience for leaders and managers?

4. How are interventions designed to enhance resilience for leaders and managers?

5. Are there any gaps in research findings that could be addressed in future research?

3.3 Method

A systematic approach outlined by Briner and Denyer (2012) and Rojon et al. (2020) and applied by Robertson et al., (2015) and Pangallo et al., (2015) was utilised to conduct a comprehensive literature review. The steps in this process include: (1) review of scope and questions, (2) literature searches, (3) review and selection of papers yielded from searches, (4) systematic data extraction, (5) analysis of data and synthesis of data extracted (adapted from Rojon et al., 2020), (6) quality analysis (adapted from Briner & Denyer, 2012).

3.3.1 Review of scope and questions

The research question was formulated during discussions between researchers, following a high-level review of current published research in the area of resilience and leadership and reviews of previously published systematic literature reviews focusing on resilience in the workplace. Researchers then conducted database searches in the broad areas of resilience for leaders in the workplace, which is an approach suggested by Rojon et al. (2020). This process highlighted an emerging body of research focusing on developing resilience for leaders and managers, although this area of focus has not yet been explored in a systematic literature review.

3.3.2 Literature searches

In order to identify relevant research literature to be included in this review, three databases were searched: PsycINFO, Scopus and Business Source Premier (EBSCO). References included in the search process were limited to those published in peer-reviewed journals, in English language and including an adult population.

Search terms were identified and agreed by researchers and were selected to capture and

include a broad range of relevant research and to answer the question: how is resilience

developed in leaders? The final search terms used were as follow:

	AND	AND	AND
Resilien*	Lead*	Intervention*	Work*
Hardiness	Manage*	Training	Organi*
Grit	Supervis*	Program*	Employ*
Psychological capital		Coaching	Occ*

Table 1: Search terms used to identify relevant research papers

Due to similarities of the definition of psychological resilience and other multi-faceted

constructs, the terms hardiness (Macedo et al., 2014; Pangallo et al., 2015), grit (Matthews

et al., 2019; Duckworth et al., 2007) and psychological capital (Luthans et al., 2006) were

included in searches to ensure all potentially relevant research papers were reviewed and

included in the systematic review process. Once all final search papers were identified,

duplicates were removed.

Search terms also included reference to leaders, managers and supervisors due to the way

these terms are often interchangeably used to describe those who motivate and inspire

others to achieve goals (Bennis & Nanus, 1985; Goffee & Jones, 2000), and due to the fact, it

is often difficult to determine participant leadership or management level in published

research, as this information is often not shared. In order to capture data for all employees

responsible for helping others achieve goals, all three broad search terms were used.

In addition to the database searches, references included in papers found in the database search were reviewed with the intention of identifying additional and relevant research papers that may reasonably be included in the final list of research papers to review. Once all final search papers were identified, duplicates were removed.

3.3.3 Review and selection of papers

Details of research papers identified as part of the initial search using PsycINFO, Scopus and Business Source Premier (EBSCO) were saved in a database. Titles were reviewed, and any titles that clearly suggested the paper was not a research study (but rather a review), did not utilise an adult or work population, and were not published in English language were excluded. Using the Study design, Participants, Interventions and Outcomes Framework (SPIO; Robertson, Cooper, Sarkar & Curran, 2015), abstracts were reviewed against inclusion and exclusion criteria, as outlined in Table 2.

	Inclusion Criteria	Exclusion Criteria
Study design	Empirical research	Study does not contain original data
	Examines impact of intervention/s	Measures not relative to the workplace
	All geographical locations and employment settings	Study does not include a measurement of psychological resilience
	Unrestricted time period	Theoretical or descriptive research, or resilience construct exploration/commentary
	English language, peer reviewed publication	
		Systematic reviews
Participant population	Adult (18+) study population	Student samples
	Supervisor, line manager or leader population	Not manager or leader population

Intervention	An intervention that aims to achieve change in participants resilience, stated as an objective of the study	Not an intervention
Outcomes	Change in psychological resilience	

Table 2: SPIO inclusion and exclusion criteria

Finally, full papers were reviewed in line with the specified exclusion criteria. Papers that were not an intervention, were not in a workplace context, did not use adult populations and did not focus on manager or leader populations were excluded from the review process. Remaining papers were then reviewed against the SPIO inclusion and exclusion criteria, which resulted in further papers being excluded from the review as they did not meet the specified SPIO criteria defined at the start of this research process. Reviewing references of papers yielded from database searches did not identify any further papers to potentially include in this review.

Throughout the review process, two researchers independently reviewed papers. When discrepancies arose, a third researcher decided whether to include or exclude a paper based on the SPIO criteria outlined. The search results have been captured (Figure 1), utilising PRISMA methodology (Moher, Liberati, Tetzlaff & Altman, 2009), illustrating the paper selection process.

Identification

Papers identified through Business Source Premier (EBSCO) database search
(*n*= 1080)

Papers identified through PsychINFO database search
(*n*= 798)

Papers identified through Scopus database search
(*n*= 512)

Total records identified
(*n*= 2390)

Papers after duplicates removed
(*n*= 2288)

Screening

Papers rejected at title
(*n*= 2232)

Abstracts reviewed
(*n*= 56)

Papers rejected at abstract
(*n*= 35)

Eligibility

Full papers reviewed
(*n*= 21)

Papers rejected at full paper review
(*n*= 16)

Included

Full papers included
(*n*= 5)

Figure 1: Search results

3.3.4 Systematic data extraction

A method outlined in previous systematic reviews (Johnson et al., 2017; Robertson et al., 2015) was adopted, whereby data from papers included in the review was recorded in a meaningful and systematic manner. Data recorded included study aims and design, sample characteristics and selection methods, intervention design and facilitator details, outcome measures and data collection processes, results and process evaluation insights. Initially, each paper was reviewed in full by one researcher, and a second researcher then reviewed the data extracted to ensure a consistent and comprehensive data extraction process.

Although no discrepancies arose when comparing the data extraction process between the first and second reviewers, had this occurred a third researcher would have been called upon to adjudicate the extraction process.

3.3.5 Analysis and data synthesis

Data synthesis was conducted by one researcher initially, with the intent of representing key findings from all five papers included in the final literature review process. Key themes were identified from the data that was extracted, using a thematic analysis approach (Miles & Huberman, 1994). As recommended by Braun and Clarke (2013) one researcher initially became familiarised with the data and grouped together outcomes presented across papers included in the review. Themes were then generated and explored, which were then reviewed by a second researcher to ensure consistency and reliability of interpretation. A third researcher finally reviewed the synthesis process and outcomes, and a narrative around the data was formed. When all three researchers were in agreement of the approach and the final data synthesis reporting, systematic review results were recorded. Biases were also considered at this point; whereby potential publication biases and conflict of interest occurrences were noted.

3.3.6 Quality assessment

To gain a deeper understanding of the results reported in the papers that were part of the final review process, and to reduce bias, a quality assessment approach outlined by Snape, Meads, Bagnall, Tregaskis and Mansfield (2016) was utilised. Four papers in the final review

were quantitative in design and one paper was a mixed methods design. A data analysis approach was utilised to assess the quality of quantitative and qualitative research papers (Snape et al., 2016). In addition to using the checklist categories outlined by Snape et al. (2016), additional factors were included as part of this quality assessment to incorporate recommendations made to include a consideration of biases by Briner & Denyer (2012). One researcher initially conducted the quality assessment, using the framework outlined by Snape et al. (2016). A second researcher then reviewed the process and added a perspective where appropriate. A third researcher finally agreed the approach and findings, and all three researchers agreed evidence statements and conclusions regarding strength of evidence for each statement.

3.4 Results

Three databases were used to search for relevant published research in line with exclusion and inclusion criteria, which yielded 2390 papers, reduced to 2288 once duplicates were removed. Following the title review, 56 papers remained, and following the abstract review 21 papers remained. Each of these papers was reviewed in depth following the exclusion and inclusion criteria, which resulted in a total of five research papers remaining: Abbott et al. (2009); Brendel et al. (2016); Grant et al. (2009); Reitz et al. (2020); Sherlock-Storey et al. (2013). A summary of each paper is outlined in Table 3, which details study, participant, intervention and measure characteristics.

	Study characteristics					Participant characteristics					
Paper	**Country of origin**	**Control/ Comp grp**	**Methodo logical approach**	**Data collection**	**Pop'n size**	**Sector**	**Completion**	**Age**	**Gender % female**	**L'ship level & experience**	
Abbott et al. (2009)	Australia	✓	Quant	Pre, post	26	Industrial	Post response rate: Intervention: 12/26; control: 19/27 (attrition not reported)	Mean 40.5 & 46	Intervention: 15%; control: 11%	Leader (experience unknown)	
Grant et al. (2009)	Australia	✓	Mixed	Pre, post, 10 weeks	41	Nursing	Intervention completion rate: 41/50 (attrition not reported)	Mean 49.84	93%	Director or senior manager (experience unknown)	
Sherlock-Storey et al. (2013)	United Kingdon		Quant	Pre, post	12	Public sector	Coaching participants: N=52; pre- and post-measures completion: N=21 (attrition not reported)	Range: 35-64	25%	Middle managers (experience unknown)	
Brendel et al. (2016)	United States of America	✓	Quant	Pre, post	21	University	Not clear (not reported)	Unknown	Intervention: 67%; control: 75%	Business professionals, faculty, university staff (experience unknown)	
Reitz et al. (2020)	United Kingdom	✓	Quant	Pre, post	57	University	Not clear (not reported)	Intervention: 44.2; control: 49.3	Intervention: 82%; control: 81%	Leader (experience unknown)	

	Outcome measures*							
Paper	**Resilience**	**Hardiness**	**Psychological Capital**	**Mental health/ wellbeing**	**Change/ ambiguity**	**Life quality/ happiness**	**Mindfulness**	**Other**
Abbott et al. (2009)				✓		✓		✓
Grant et al. (2009)		✓		✓				✓
Sherlock-Storey et al. (2013)			✓		✓			
Brendel et al. (2016)	✓			✓	✓			✓
Reitz et al. (2020)	✓						✓	✓

*Across studies, the same quantitative measures were used at each data collection time point.

Table 3: Summary of study, participant, intervention characteristics and measures used in each study

3.4.1 Study characteristics

Location

There is some variability with regards to countries where studies have been carried out, all studies included in this review took place in English speaking countries. Two studies were conducted in Australia (Abbott et al., 2009; Grant et al., 2009), two in the UK (Reitz et al., 2020; Sherlock-Storey et al., 2013) and one in the US (Brendel et al., 2016).

Methodological approach, control and comparison groups

Four studies were quantitative in design (Abbott et al., 2009; Brendel et al., 2016; Reitz et al., 2020; Sherlock-Storey et al., 2013), one study used a mixed methods approach (Grant et al., 2009), whereby the qualitative data collected related to feedback on the programme and overview of learnings (not resilience). Four studies employed control groups to provide a comparison in results. The study that did not use a control group was an opportunity sample of managers who volunteered to join a resilience coaching programme (Sherlock-Storey et al., 2013). Two studies employed a randomised waitlist-controlled design (Abbott et al., 2009; Grant et al., 2009), one utilised a non-randomised waitlist-controlled design (Reitz et al., 2020) and one used a comparison group design (Brendel et al., 2016).

Design and data collection

In all studies included in this review data was collected at two time points, pre and immediately post intervention. One paper also collected intervention feedback data 10 weeks post-intervention (Grant et al., 2009) although at this timepoint the data collected was focused on satisfaction with the programme, resilience was not measured.

Selection methods

In all but one of the studies self-selection methodology was used; Grant et al. (2009) did not specify how participants were selected. Across studies, participants were selected based on responses to adverts, emails sent to specific individuals and university alumni communications. In one study current leaders on a graduate leadership programme volunteered to take part in the research, whist the comparison group was made up of volunteering faculty staff at the university where the research was taking place (Brendel et al., 2016).

3.4.2 Participant characteristics

Sample size

Sample size ranged from *n=12* to *n=57*. Three of the studies reported attrition rates (Abbott et al., 2009; Grant et al., 2009; Sherlock-Storey et al., 2013), although data from those that dropped out of the intervention were not reported. Two studies didn't report attrition rates (Brendel et al., 2016; Reitz et al., 2020).

Demographics

Two papers were heavily represented by male participants which made up 75% of the population (Sherlock-Storey et al., 2013) and 85% of the intervention group and 89% of the control group (Abbott et al., 2009). All other papers reported a significantly female population whereby 93% of participants were female (Grant et al., 2009), 67% of the intervention group and 75% of the control group were female (Brendel et al., 2016) and 82% of the intervention group and 81% of the control group were female (Reitz et al., 2020). One study reported ages ranging from 35 – 64 years (Sherlock-Storey et al., 2013), three studies reported mean ages between 40.5 and 49.85 (Abbott et al., 2009; Grant et al., 2009; Reitz et al., 2020). One study didn't report participant ages (Brendel et al., 2016).

Leadership level and experience

None of the studies reported leadership experience, and three studies reported on leadership level, which included director or senior manager (Grant et al. 2009), middle managers (Sherlock-Storey et al., 2013), and business professionals and faculty staff working where the intervention was being run (Brendel et al., 2016).

Organisational sector

One study was conducted in what was described an industrial organisation (Abbott et al., 2009) whereby participants worked in a sales function and mostly worked from home in rural locations. Two interventions took place in a university setting whereby current

students pursuing graduate degrees and leadership, and staff at the university took part in research (Brendel et al., 2016) and participants consisted of a convenience sample of leaders interested in a mindful leader programme at the university where research took place (Reitz et al., 2020). Two studies took place in public sector environments, one in a nursing sector in a public health agency (Grant et al., 2009) and the other in a UK public sector organisation (Sherlock-Storey et al., 2013).

Paper	Design	Delivery	Duration	Design focus (intervention grps)	Facilitator
Abbott et al. (2009)	(ResilienceOnline) training programme, focused on seven elements of resilience: emotional regulation, impulse control, optimism, causal analysis, empathy, self-efficacy, reaching out. Programme based on cognitive therapy, delivered via video and slides.	Training	10 weeks	Online resilience: cognitive therapy theory	Reflective learner facilitator (owner of ROL programme)
Grant et al. (2009)	Half-day training workshop attended by all participants who were then allocated to group 1 (intervention group) and group 2 (waitlist, then intervention group 2 at week 10). Training programme focused on enhancing and developing leadership capability (not enhancing resilience). The coaching sessions were underpinned by a cognitive-behavioural, solution-focused framework (Grant, 2003). GROW model (Whitmore, 1992) was used to structure each coaching session. Delivery method (such as face-to-face or virtual) is unknown.	Training, coaching	8 – 10 weeks	Leadership: cognitive-behavioural solution-focused framework	Two experienced professional coaches - Coaching Psychology qualifications
Sherlock-Storey et al. (2013)	Three 1.5-hour coaching sessions spaced three weeks apart at participant's workplace. Participants received workbook and were asked to detail coaching goals pre intervention. Coaching sessions focused on seven resilience behaviours: goal setting, explanatory style, using strengths, social support, self-efficacy, attaining perspective.	Coaching	9 weeks	Resilience: seven resilience behaviours	Seven volunteers, minimum MSc occupational psychology or coaching qualification
Brendel et al. (2016)	Leadership group (intervention group) attended weekly cognitive-behavioural leadership class at the university (which was happening regardless of research). Mindfulness group (control) took part in 1x 45 min meditation session every week for eight weeks.	Training	8 weeks	Leadership mindfulness: cognitive-behavioural framework	Intervention group: university faculty; control group: unknown
Reitz et al. (2020)	Intervention group: three half day workshops every two weeks, one full day workshop in week six conducted at university, conference call week eight focusing on practicing mindfulness. Control and intervention group: participants were asked to practice mindfulness every day for 20 minutes. Design was based on Mindfulness-Based Stress Reduction (MBSR) and MBCT (unexplained) theory (Chaskalson, 2014).	Training	8 weeks	Leadership mindfulness: Mindfulness-Based Stress Reduction theory	Mindfulness teacher and business school professor

Table 4: Intervention design details

3.4.3 Intervention characteristics

Delivery

The studies included in this review utilised various intervention formats including face-to-face training (Brendel et al., 2016; Reitz et al., 2020), face-to-face coaching (Sherlock-Storey et al., 2013), a mix of training and coaching, which is not specified as delivered face-to-face or virtually (Grant et al., 2009) and online training (Abbott et al., 2009). The duration of interventions ranged from eight to 10 weeks.

Design and facilitation

Two studies were designed to enhance resilience by deploying interventions that taught participants about the components of resilience (Abbott et al., 2009; Sherlock-Storey et al., 2013). One study was delivered online by a reflective learner facilitator (who designed the programme being researched) and was designed to focus on seven elements of resilience using a cognitive therapy approach (Abbott et al., 2009). The second study was a coaching programme delivered by seven volunteers who had the minimum of an MSc occupational psychology qualification (Sherlock-Storey et al, 2013). This intervention comprised of three 90-minute coaching sessions focusing on seven resilience behaviours. Participants were asked to detail coaching goals at the start of the intervention. Although both the Abbott et al. (2009) and Sherlock-Storey et al. (2013) interventions both focused on seven elements of resilience, these components of resilience were not the same in the two research papers.

The remaining three papers used a variety of techniques to build resilience, including the use of mindfulness techniques (Brendel et al., 2016; Reitz et al., 2020) and cognitive-behavioural, solution-focused theory (Grant et al., 2009). The intervention deployed by Brendel et al (2016) consisted of university faculty delivering a cognitive-behavioural leadership class at a university for the intervention group, which was a convenience sample of students already taking part in a leadership class. The control group took part in a 45-minute meditation session every week for the eight-week duration of the programme. Reitz et al. (2020) delivered an intervention by a business school professor who was employed at the business school where the intervention was taking place, and a mindfulness teacher. The intervention group attended a mix of half day and full day workshops (designed using Mindfulness-Based Stress Reduction theory), the control group didn't take part in the workshops and were asked to practice mindfulness every day for 20 minutes, along with the intervention group.

Grant et al. (2009) explored the effects of a leadership development programme (including training and coaching), supported by coaching using cognitive-behavioural solution-focused theory. Two experienced coaches (with coaching psychology qualifications) delivered the programme, which comprised of a half day leadership development workshop designed to enhance leadership capability and manage change, which both the intervention and control attended (and completed measures). The intervention group then started coaching immediately, the control group started coaching 10 weeks later.

Paper	Measures	Results: intervention effect size (*p*)
Resilience		
Brendel et al. (2016)	Connor-Davidson Resilience Scale (CD-RISC-10) (Connor & Davidson, 2003)	Leadership group not significant (*ns*); Mindfulness group not significant (*ns*).
Reitz et al. (2020)	The Ashridge Resilience Questionnaire (ARQ) (Davda, 2011)	Emotional control: intervention group <0.001; control group not significant (*ns*), self-belief: intervention group <0.01; control group <0.05; purpose: intervention group <0.01, control group <0.05; adapting to change: intervention group <0.01, control group not significant; awareness of others: intervention group <0.05, control group not significant, balancing alternatives: intervention group <0.001, control group <0.01.
Hardiness		
Grant et al. (2009)	Cognitive Hardiness Scale (Nowack, 1990) (used to measure resilience)	Group 1: results compared T1 and T2, and control group; group 2: results compared T1 and T2, no control group. Group 1 <0.05; group 2 <0.01.
Psychological Capital		
Sherlock-Storey et al. (2013)	Psychological Capital Questionnaire (PCQ) (Luthans, Youssef & Avolio, 2007)	Hope: 0.01 (Bonferroni corrected), optimism: 0.01 (Bonferroni corrected), resilience: 0.045 (Bonferroni corrected), self-efficacy: not significant 0.055 (Bonferroni corrected).
Mental health and wellbeing		
Abbott et al. (2009)	DASS-21: Depression Anxiety and Stress Scales (Lovibond & Lovibond, 1995)	Time x group effects: .81 not significant.
Grant et al. (2009)	DASS-21: Depression Anxiety and Stress Scales (Lovibond & Lovibond, 1995)	Group 1: results compared T1 and T2, and control group; group 2: results compared T1 and T2, no control group. Depression: group 1 -ve, <.05; group 2 not significant; anxiety: group 1 not significant; group 2 not significant; stress: group 1 not significant; group 2 -ve, < 0.05.
Grant et al. (2009)	WWBI, Page, 2005 (not referenced)	Group 1: results compared T1 and T2, and control group; group 2: results compared T1 and T2, no control group. Group 1 <0.05; group 2: <0.01.
Brendel et al. (2016)	State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983)	Leadership group not significant; mindfulness group 0.007.
Brendel et al. (2016)	Perceived Stress Scale (Cohen et al., 1983)	Leadership group not significant; mindfulness group 0.018.
Change and ambiguity		
Sherlock-Storey et al. (2013)	Readiness for Change Scale (Holt et al, 2007)	Change efficacy: 0.005 (Bonferroni corrected).
Brendel et al. (2016)	Tolerance for Ambiguity Scale (Budner, 1962)	Leadership group not significant; mindfulness group not significant.
Brendel et al. (2016)	Stages of Change Questionnaire (adapted version) (Prochaska & DiClemente, 1983)	Leadership group not significant, mindfulness group not significant.
Life quality and happiness		
Abbott et al. (2009)	The World Health Organization Quality of Life – BREF (WHOQOL-BREF): (World Health Organization, 2000)	Time x group effects: 0.97 not significant.
Abbott et al. (2009)	AHI: Christopher Peterson, University of Michigan, unpublished measure	Time x group effects: 0.61 not significant.
Mindfulness		
Reitz et al. (2020)	Five Factor Mindfulness Questionnaire (FFMQ) (Baer et al., 2006)	Observe: intervention group <0.001, control group not significant; describe: intervention group <0.001, control group not significant; aware: intervention group <0.01, control group not significant; non-judgement: intervention group <0.001, control group not significant; non-reaction: intervention group <0.001, control group not significant.

Sales performance		
Abbott et al. (2009)	Target gross margin (organisation data)	Time x group effects: 0.16 not significant.
	Target volume of product sold organisation data)	Time x group effects: 0.76 not significant.
Regulatory focus		
Brendel et al. (2016)	Regulatory Focus Questionnaire (RFQ) (Higgins et al., 2001)	Leadership group not significant; mindfulness group promote subscale 0.018, other subscales not significant.
Interpersonal reactivity		
Reitz et al. (2020)	Interpersonal Reactivity Index (IRI) (Davis,1980)	Fantasy: intervention group not significant; control group <0.01; perspective taking: intervention group <0.001, control group <0.001; personal distress: intervention group <0.01, control group not significant; empathetic concern: intervention group <0.001, control group <0.001.
Memory		
Reitz et al. (2020)	The Automated Operation Span Task (OSPAN) (Turner & Engle,1989)	Intervention group not significant, control group not significant.
Progress and satisfaction		
Abbott et al. (2009)	Intervention satisfaction questionnaire (not published or referenced) *	12/26 participants were positive about the programme and how useful it was.
Grant et al. (2009)	Goal Attainment Scaling (not referenced)	Group 1: results compared T1 and T2, and control group; group 2: results compared T2 and T3, no control group. Group 1 <0.001; group 2 <0.001.
Grant et al. (2009)	Programme benefit questions (not referenced) *	Increased confidence (25/39 responses), enhanced management skills (23/39), better coping with organisational change/stress (23/39), personal or professional insights (14/39), helped career development (12/39).
Reitz et al. (2020)	Competence questionnaire (360-degree feedback, not published or referenced)	Self-perception on scale: Collaboration: intervention group <0.001; control group 0.02; resilience: intervention group <0.001, control group not significant; care and concern for others: intervention group <0.001, control group 0.046; perspective taking: intervention group <0.001, control group not significant; agility in complexity: intervention group 0.006, control group not significant.

* Qualitative data collected at one time point.

Table 5: Details of outcome measures and results for each study by outcome

3.4.4 Outcomes and measures

Various measures were used across studies, the majority of which were quantitative. All of the data associated with quantitative measures was collected at the same two time points for all five studies, except for programme satisfaction data collected by Abbott et al. (2009) post-intervention only. Qualitative data collected by Grant et al. (2009) focused on how participants had benefitted from the intervention, which was measured at one time point only post-intervention.

Resilience measures

Four of the five studies measured resilience or related constructs using a valid measure. Resilience measures used included Cognitive Hardiness Scale developed by Nowack (1990), (Grant et al., 2009), Psychological Capital Questionnaire (PCQ) developed by Luthans, Youssef and Avolio, (2007) (Sherlock-Storey et al., 2013), Connor-Davidson Resilience Scale (CD-RISC-10) developed by Connor and Davidson (2003) (Brendel et al., 2016) and The Ashridge Resilience Questionnaire (ARQ) developed by Davda (2011) (Reitz et al., 2020).

Mental health and wellbeing

The DASS-21: Depression Anxiety and Stress Scales measure (Lovibond & Lovibond, 1995) was used in two studies (Abbott et al., 2009; Grant et al., 2009). One study utilised both the State-Trait Anxiety Inventory developed by Spielberger, Gorsuch, Lushene, Vagg and Jacobs, (1983) and Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein, (1983)

(Brendel et al., 2016). One study (Grant et al., 2009) used a measure that wasn't referenced, known as the Workplace Well-being Index.

Change and ambiguity

One study utilised the Readiness for Change Scale developed by Holt, Armenakis, Field and Harris, (2007) (Sherlock-Storey et al., 2013). Another study (Brendel et al., 2016) used the Tolerance for Ambiguity Scale developed by Budner (1962) and an adapted version of the Stages of Change Questionnaire developed by Prochaska & DiClemente (1983).

Quality of life and happiness

One study (Abbott et al., 2009) measured both quality of life and happiness using The World Health Organization Quality of Life – BREF questionnaire developed by World Health Organization (2000) and Authentic Happiness Inventory, an unpublished measure developed by Christopher Peterson, University of Michigan.

Other outcomes

Across studies additional outcomes were measured. One paper (Reitz et al., 2020) measured mindfulness using the Five Factor Mindfulness Questionnaire (Baer et al., 2006), interpersonal reactivity using the Interpersonal Reactivity Index (Davis,1980), progress using a 360-degree measure that was not referenced and memory using The Automated Operation Span Task (OSPAN) (Turner & Engle,1989). Abbott et al. (2009) measured sales

performance using gross margin and volume of sales data (compared with targets set) and

satisfaction with the intervention using a scale that isn't published or referenced. Brendel et

al. (2016) measured regulatory focus using the Regulatory Focus Questionnaire (Higgins et

al., 2001). One study (Grant et al., 2009) measured goal attainment and satisfaction with the

programme using unreferenced measures.

Definition	Reference Paper
"A person's ability to persevere in the face of challenges, setbacks and conflicts". (Reivich & Shatter, 2002).	Abbott et al. (2009), pg. 89
"individual's sense of personal control, their propensity to rise to meet challenges, and their commitment to action" (based on Kobasa, 1979).	Grant et al. (2009), pg. 400
"Resilient individuals are more likely to be open to new experiences, more flexible and more emotionally stable in the face of adversity" (Avey, Luthans & Jensen, 2009).	Sherlock-Storey et al. (2013), pg. 19
"Leadership literature describes resilience as a type of psychological capital or mental resource that can be accessed by leaders who face relentless organizational pressures" (Luthans et al., 2006; Xanthopoulou, Bakker, Demerouti & Schaufeli 2007).	Brendel et al. (2016), pg. 1059
"Resilience is defined in the context of organisational behaviour as the "psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility" (Luthans, 2002, p. 702).	Reitz et al. (2020), pg. 2

Table 6: Resilience definitions referenced

3.4.5 Resilience definition

Resilience definitions ranged across studies, which is an observation mentioned in a

previous systematic review focusing on the effectiveness of resilience interventions

(Robertson et al., 2015). All definitions used across studies referenced the role challenge

and adversity play in building resilience, and one more recent definition of resilience

referenced future growth and positive change (Reitz et al., 2020). None of the papers

detailed definitions for grit, hardiness, or psychological capital, even though these measures

were used in some instances to measure resilience.

3.4.6 Study results

Intervention impact on resilience, hardiness, and psychological capital

When comparing results from the four studies that utilised resilience measures, the overall results detailing the relationship between taking part in an intervention and the impact on resilience are mixed. Grant et al. (2009) found supporting evidence to suggest taking part in a training and coaching programme significantly increased resilience, both for the initial group who took part in the intervention who were compared to the waitlist control group (*p* = 0.05) and for the control group who took part in the intervention at a later date (*p* = 0.01). These positive results were captured utilising the Cognitive Hardiness Scale which measures commitment, challenge and control (Nowack, 1990).

Sherlock-Storey et al. (2013) utilised the Psychological Capital Questionnaire (PCQ), a six-item scale that measures ability to bounce back when faced with adversity to attain success (Luthans et al., 2007). This study found those taking part in resilience coaching reported significantly higher levels of resilience post-intervention for the 11 participants who completed the coaching and measure (*p* = 0.045). This study also measured hope and optimism as part of the PCQ scale, which according to a systematic review conducted by Pangallo et al., (2014) both fall within the positive emotions facet of resilience. Sherlock-Storey et al. (2013) study found self-reported hope (*p* = 0.01) and optimism (*p* = 0.01) to be significantly increased after the coaching intervention.

The Connor-Davidson Resilience Scale (CD-RISC-10) (Connor & Davidson, 2003) is a 25-item scale the focuses on areas such as adaptability, self-efficacy and control, and was used to measure the impact of a training intervention on resilience in a study conducted by Brendel

et al. (2016). This study did not report significant impact of the training programme on resilience for either the leadership intervention group who attended weekly cognitive-behavioural leadership classes or the control group who practiced meditation for eight weeks.

The Reitz et al. (2020) study included in this review utilised The Ashridge Resilience Questionnaire (ARQ) (Davda, 2011) a measure of resilience published by Ashridge University, where the intervention took place. This measure separates resilience into six components, and results for each individual component were reported. Reported results indicate a significant and positive change in emotional control (p = 0.01), adapting to change (p = 0.01) and awareness of others (p = 0.05) for the intervention group, but no significant changes in these areas for control group who took part in meditation only. Significant changes in other facets of resilience measured were reported by both the intervention and control groups, including self-belief (intervention group: p = 0.01; control group p = 0.05), purpose (intervention group: p = 0.01; control group p = 0.05) and balancing alternatives (intervention group: p = 0.001; control group p = 0.01). In this study, half of the resilience facets measured significantly and positively changed post-intervention compared to the control group, and half reported no change when compared to the control group.

Depression, stress, and anxiety

The study conducted by Abbott et al. (2009) measured intervention impact on stress, using the DASS-21: Depression Anxiety and Stress Scales (DASS) (Lovibond & Lovibond, 1995) tool.

There were no significant differences between the intervention and control groups on reported depression, anxiety, and stress.

The study by Grant et al. (2009) used the same DASS measure (Lovibond & Lovibond, 1995) and reported a significant negative change in depression for the intervention group compared with a waitlist control group (-ve p = 0.05), although when the control group took part in the same intervention and completed the same measures, no significant changes in depression were reported. Anxiety measures did not significantly change post-intervention for either the intervention and control group, and interestingly, reported stress was only negatively significant for the control group (-ve p = 0.05). Overall, this study provided limited support for depression, stress and anxiety significantly changing after taking part in an executive coaching intervention.

The study by Brendel et al. (2016) found anxiety as measured by State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983) did not significantly change for the leadership intervention group, and neither did stress as measured by the Stages of Change Questionnaire (adapted version) (Prochaska & DiClemente, 1983). This study does not provide support for leadership training significantly impacting stress or anxiety.

Change and ambiguity

Resilience can be a useful psychological tool to develop in order to deal with changeable situations and ambiguity (Robertson et al., 2015). Sherlock-Storey et al. (2013) used the Readiness for Change Scale (Holt et al, 2007) and found change efficacy to be positively

impacted by taking part in a resilience coaching intervention (p = 0.05). Brendel et al. (2016) found those that attended a leadership training programme did not report a significant change in tolerance for ambiguity using the Tolerance for Ambiguity Scale (Budner, 1962).

3.5 Discussion

The purpose of this systematic review is to understand and analyse the how resilience is developed in leaders and managers, based on published research. This systematic review also set out to understand the mechanisms by which resilience is developed in the leader and manager population and the outcomes associated with interventions designed to enhance resilience. Evidence statements in Table 7 summarise the evidence of findings in this systematic review.

Evidence statement	Rating	Reasoning
Interventions designed to enhance resilience for leaders and managers improve reported resilience	Unclear evidence	One of the five studies included in this systematic review indicates significant positive impact on reported resilience when compared to a control group, another reports mixed results on various components of resilience when the intervention and control groups were compared post-intervention. One study didn't use a control group but found a significant and positive change in resilience results following the intervention. Two studies did not report significant positive changes in resilience measures post-intervention. The quality assessment for all five papers was rated low to moderate overall.
Training interventions designed to enhance resilience for leaders and managers improve reported resilience	Unclear evidence	One of the four studies that includes a training element in the intervention reported significant positive impact on reported resilience when a control and intervention group were compared, although this paper yielded a low-quality score in the quality assessment process and the intervention utilised a training and coaching design combined so it is not clear exactly how the training part of the intervention affected the measure. One paper yielded mixed positive results on elements of resilience when intervention and control groups were compared, although the quality of this study was low. Two papers that utilised a training design did not report positive or significant results.
Coaching interventions designed to enhance resilience for leaders and managers improve reported resilience	Unclear evidence	One coaching intervention paper reported significant positive impact on reported resilience, although this paper also utilised a training as part of the intervention delivery and was found to be of low quality in the quality assessment process. The only study that measured the impact of a solely coaching intervention on resilience reported a significant and positive impact on resilience at a high statistical threshold, although this paper was found to be of low quality in the quality assessment process.

Table 7: Evidence statements

3.5.1 What is the evidence for developing resilience in leaders and managers?

Across the five research papers included in this systematic review, results supporting a positive and significant improvement in reported resilience are mixed. Two papers included in this systematic review report significant and positive results (Grant et al., 2009; Sherlock-Storey et al., 2013), two papers reported no significant impact on measured resilience (Abbott et al., 2009; Brendel et al., 2016), and one paper reported some significant and positive impact on facets of resilience when comparing an intervention and control group, although there was no difference in reported outcomes between the intervention and control group for other resilience characteristics (Reitz et al., 2020). These somewhat mixed results across studies reflect a pattern associated with systematic reviews detailing intervention effectiveness on reported resilience, as similar mixed results have been reported in previous systematic reviews and meta-analysis papers (Robertson et al. 2015; Vanhove et al., 2016).

Although two studies reported significant and positive results, and one paper reported some positive results, due to the quality of the papers, it cannot be determined whether these results do in fact provide sufficient evidence to suggest interventions for leaders impact reported resilience. At present, the evidence to suggest interventions designed enhance resilience positively and significantly affect leader and manager resilience is unclear. There are limited studies from which to draw data, a finding echoed in an earlier systematic review (Robertson et al., 2015) which focused on the impact of interventions for all populations (not only managers and leaders). The quality of these studies is also limited.

3.5.2 What mechanisms have been used to develop resilience in leaders and managers?

Interventions were predominantly delivered using a training approach, with one study using a coaching approach, and one combining training and coaching. This range of intervention delivery styles provides an insight into varying design mechanisms that can support the development of resilience for leaders. All research papers reported an intervention length of between eight and ten weeks, suggesting this is a universally acceptable intervention timeframe. Most of the interventions were delivered face-to-face (although one study did not report how the intervention was delivered), with one study utilising completely online delivery methods. Although the online training research paper didn't yield positive results (Abbott et al., 2009) it is interesting that this method of delivery was included in one of the five papers, as virtual training and coaching delivery is likely to become more standard given the increased focus on virtual working since more employees have been working remotely whilst navigating a pandemic from 2020 to 2022.

The aims of interventions and design varied between studies. These included developing resilience (Abbott et al., 2009; Sherlock-Storey et al., 2013), developing leadership skills (Grant et al, 2009) and developing mindfulness skills (Brendel et al., 2016; Reitz et al., 2020). Not all the research studies included as part of this systematic review utilised interventions that were specifically designed to enhance resilience, some reported resilience as an outcome of training leaders in either leadership or mindfulness skills (Brendel et al., 2016; Grant et al, 2009; Reitz et al., 2020).

The studies that were designed to build resilience skills for leaders employed different training and coaching methodology, ranging from an online programme focusing on seven elements of resilience using a cognitive therapy approach (Abbott et al., 2009) to coaching sessions that again focused on seven elements of resilience (Sherlock-Storey et al., 2013) that were different to those facets of resilience that were the focus of the intervention deployed in the Abbott et al. (2009) research paper.

Based on the use of multiple design methodologies and differing delivery methods across studies, and the limited number of studies with a low-quality assessment rating, at present it is unclear the extent to which specific design methodologies, or intervention delivery methods influence how resilience is developed for leaders and managers.

3.5.3 What are the outcomes of interventions designed to enhance resilience for leaders?

Despite the increased focus on resilience for leadership populations within organisations (Zunz, 1998), the literature search for this systematic review yielded only five papers that met the exclusion and inclusion criteria and measured resilience as an outcome following an intervention for leaders or managers. Of these five papers, four used a verified resilience measure or measure of an associated construct such as hardiness or psychological capital to determine outcomes, and one paper relied on a tool that measures depression, anxiety and stress to determine the impact of the intervention on resilience. Comparing resilience as an outcome when such widely different measures were used is challenging as each tool measures a different aspect of resilience, some measure individual components of

resilience, and some measure completely different constructs (such as hardiness or psychological capital) and relate those findings to the construct of resilience where possible.

In addition to the complexities associated with comparing outcomes using different measurement tools, it should also be noted that all studies used a self-report method. Participant levels self-awareness and perception of their own resilience could influence how they respond to the measures used. Due to the limited number of research papers that explore the impact of interventions on leader and manager resilience, it is overall difficult to determine the extent to which coaching and training interventions impact resilience in leaders and managers.

3.6. Limitations and implications for future research and practice

3.6.1 Limitations of current research

This systematic literature review has highlighted areas where future research could add to the body of published research focused on developing resilience for a leader and manager population. The number of studies in this area is limited, with only five papers being included in this review, which leads to the conclusion more research focusing on understanding how resilience is developed in leaders is required. Currently, we know little about which types of intervention (such as coaching, training, online delivery methods, mixed approaches) are most likely to play a role in building resilience, and in which circumstances. There just isn't the body of research published yet to draw these conclusions.

Definitions of resilience varied across studies, such as: focusing on perseverance when facing adversity (Abbott et al., 2009; Reivich & Shatter, 2002); maintaining a sense of control to overcome challenges and commit to taking action (Grant et al., 2009; Kobasa, 1979); being open to experiences, whilst being flexible and emotionally stable in dealing with obstacles (Avey et al., 2009; Sherlock-Storey et al., 2013); a mental resource to help leaders deal with pressures (Brendel et al., 2016; Xanthopoulou et al., 2007); bouncing back from adversity, progressing and increasing responsibility (Luthans, 2002; Reitz et al., 2020). Interestingly, resilience was not defined in the same way in any of the studies included in this systematic review, which leads to the question of how effectively research studies can be compared when the definition of the construct they are measuring differs to such a great extent. Across papers in this systematic literature review, measures for hardiness and psychological capital are utilised, although none of the research papers included definitions of these constructs.

Some of the studies included in this systematic review reported a predominantly female population (Brendel et al., Grant et al., 2009; 2016; Reitz et al., 2020), and two studies reported a predominantly male population (Abbott et al., 2009; Sherlock-Storey et al., 2013). Interventions took place across a broad range of settings ranging from public sector organisations, universities and industrial organisations. Ages of participants reflect those that would be expected in a leadership population, ranging from mid-thirties to almost fifty years old. These varied demographics across studies provide a broad picture of how interventions impact resilience for the leader and manager population, although due to the limited number of studies (of varying quality) included in this systematic review, it's unclear

to what extent these broad findings could be applied to the general leadership and management population.

Although some studies reported leadership level ranging from director to senior manager (Grant et al., 2009; Sherlock-Storey et al., 2013), others didn't report on this (Abbott et al. 2009; Reitz et al., 2020), and one study only referred to participants as business professionals, university staff and faculty (Brendel et al., 2016). The leadership and manager population is broad within organisations and a lack of detail indicating leadership level and experience (which no studies reported) makes it difficult to determine which interventions impact specific leadership populations, or if interventions are more effective at different points within a leader's career.

The quality of papers (evaluated against specific quality guidelines outlined by Snape et al., (2016) proved to be low to moderate overall. It is important to consider the lack of published research in this field and low quality of papers, which make it difficult to draw conclusions relating to the impact of interventions when collectively evaluating research papers included in this review. The main quality assessment challenge across all papers was the lack of reported attrition information and analysis of this data, which according to Snape et al. (2016) is an important factor in the quality assessment process.

3.6.2 Limitations of this systematic literature review

The literature search process for this systematic review took place in July 2021, and the most recent paper included in the review was published in 2020 (Reitz et el., 2020).

Published research may have moved on since the search process took place, particularly given the focus on building resilience for leaders as they navigate a challenging working environment (such as leading through a pandemic). For the purpose of this review, the constructs of psychological capital, hardiness and grit were included in the search terms due to the similarities between these constructs and resilience, future systematic reviews may also benefit from broadening the search terms.

3.6.3 Implications for future research

Each of the five papers included in this review defined and measured resilience in a different way. Consistent definition and conceptualisation of resilience should be used in future research, a recommendation supported by findings in previous systematic reviews and meta-analysis papers (Robertson et al., 2015; Vanhove et al., 2016).

Studies measuring the impact of resilience interventions often use measures that are associated with resilience (hardiness, psychological capital) but don't explicitly measure the construct of resilience (Sarkar & Fletcher, 2013). The body of research will be advanced if researchers use a consistent assessment approach with validated resilience scales (Macedo et al., 2014; Robertson, 2015), and to understand the specific elements of resilience that are being measured (as was the process in the Reitz et al., 2020 study included in this present systematic review), rather than measuring the multidimensional and broad construct of resilience. A guide for this would be the systematic literature review published by Pangallo et al. (2014) which outlines resilience themes derived from published scales and includes nine themes and sixteen subthemes. Using a measure detailing sub-themes of resilience

would also aid the reporting of isolation of effects (as recommended by Robertson at al., 2015).

Only two of the studies included in this present review were designed with the exclusive intention of building resilience (Abbott et al., 2009; Sherlock-Storey et al, 2013). Two studies measured resilience as an outcome but were designed to teach leaders mindfulness practices (Brendel et al., 2016; Reitz et al., 2020) and one study was designed to determine the effects of a broad leadership intervention (Grant et al., 2009). Future studies would benefit from exploring which of these intervention aims is most likely to develop resilience in leaders, and how. It would also be beneficial to understanding more about the dynamics or context which can affect how resilience is built as a dynamic construct (Pangallo et al., 2015), and type of training methodology that impacts reported results (Robertson et al., 2015).

A systematic review conducted by Robertson et al (2015) recommended future research focus on identifying the process by which secondary outcomes (such as performance and wellbeing) are impacted by resilience interventions. This current systematic review has however indicated that for the leader and manager population it's unclear how interventions impact resilience as a construct, which is the primary outcome of resilience-enhancing interventions. Therefore, for the leader and manager population, future research should identify how interventions impact the development of resilience, before focusing on how interventions impact secondary outcomes such as performance and wellbeing.

Future research should be designed to deepen the understanding of how interventions impact resilience (Johnson et al., 2017; Robertson et al., 2015), would be supported by a qualitative research approach. It is clear that there is limited knowledge about the factors outside of the intervention that can impact effectiveness (as is evident in the Abbott et al., 2009 study), so this is an area that would benefit from future research, particularly as resilience is a dynamic construct that interacts with environmental factors (Pangallo et al., 2014), so presumably the environment or context where an intervention is carried out could impact the effectiveness of an intervention.

Most of the studies in this present review were quantitative by design. Future quantitative studies focusing on developing resilience for leaders should utilise a randomised controlled design, and effect size should be reported (Macedo et al., 2014; Robertson et al., 2015). None of the studies included in this systematic review are longitudinal in design (with regard to measuring resilience) which means it cannot be determined how long post-intervention effects last, and whether these change over time (either in a positive or negative direction). In fact, Brendel et al. (2016) reported that measuring effects of the intervention at the end of the eight-week programme may not provide insight into the full effects of the intervention programme as it may not be long enough post-programme for effects to be evident. Future research would benefit from a longitudinal design whereby the distal effects of an intervention on leader and manager resilience could be analysed, which is also a recommendation made in systematic reviews and meta-analysis studies carried out by Robertson et al. (2015), Pangallo et al. (2015), Macedo et al. (2014,) and Vanhove et al. (2016).

One of the key issues identified in this present systematic review is the lack of quality in intervention design, which should be addressed in future research. The reporting of attrition data was inconsistent across studies, whilst some reported the number of participants who dropped out of research, some did not. And for those that did report attrition numbers, additional demographics were not presented, and any data collected from those individuals that left the research study was not reported. According to Snape et al. (2016), the reporting of attrition data is an important consideration when assessing quality of research. Although statistically it is appropriate to report on data from participants who have completed an intervention and measures at all time points, future research would benefit from also including quantitative attrition data gathered (such as demographic data and insights into measures that were completed prior to drop-out), which is also a recommendation made in a systematic review conducted by Macedo et al. (2014). In future research, it would also be useful to understand some of the qualitative observations of those that have left studies, as this would provide an insight into factors that impact effectiveness of interventions. It is also not the norm to explore whether participants have been adversely affected by interventions. It would be beneficial for future studies to explicitly explore adverse effects of taking part in a resilience intervention as well as positive outcomes (Macedo et al., 2014).

It is not possible to conclusively draw on results from a previous systematic review conducted by Robertson et al. (2015) and a meta-analysis conducted by Vanhove et al. (2016) which reviewed the impact of interventions on resilience for a homogeneous population. These studies reported mixed results, but as a quality assessment was not

carried out in either study, the evidence for a positive impact on resilience following an intervention cannot be applied to the broader working population. In fact, one study (Grant et al., 2009) is reported as detailing positive outcomes and the paper is explored as an example of appropriate intervention design in the Robertson et al. (2015) systematic literature review, but that same Grant et al. (2009) paper was included in this present review, but as it yielded a low-quality score in the quality assessment process, findings have not been used to suggest implications for practice.

3.6.4 Implications for future practice

Due to the limited number of studies included in this present systematic review, which reported mixed results and were overall of low quality, it is difficult to suggest implications for future practice. Results indicate some training and coaching interventions help leaders and managers to build resilience some of the time, but there is no clear indication of which design methodologies are most effective and which delivery styles are most appropriate. Even if this data was clear, the fact that quality assessments were rated as low for each evidence statement within this review, these findings would not be recommended as a guide for future practice.

The studies included in this review detailed multiple delivery methods such as face-to-face training, face-to-face coaching, dual delivery components comprising of training and coaching, and online training, indicating varied delivery approaches across interventions. This provides practitioners with a broad range of delivery examples from which to base delivery methodology. The duration of interventions yielded less range, with interventions

being carried out anywhere from eight to ten weeks. Although this may provide a guide for practitioners designing resilience interventions in the future, it's important to note, none of the studies included in this review were longitudinal, so it's unclear whether the delivery methodology employed would create long-term results.

Interventions across studies included in this review were delivered by a broad range of facilitators, with varying levels of expertise and experience. These included a reflective learner facilitator, volunteers with a minimum qualification in MSc in occupational psychology, a professor at the business school where the intervention was taking place, a mindfulness teacher, and experienced coaches with coaching psychology qualifications. Intervention design was also broad, and included methodology drawn from mindfulness therapy, cognitive therapy, cognitive-behavioural solution-focused therapy. Participants were trained based on the components of resilience (which were not the same across papers) and coached to support implementation of resilience behaviours. Due to the limited number of research papers included in this review, the lack of quality assurance, and the broad range of delivery and design components utilised, it is impossible to make recommendation on best practice in these areas for practitioners.

Due to the inconclusive nature of design and delivery factors that create specific resilience outcomes, it is challenging to offer advice for those that are making budget and strategy decisions within organisations. Although coaching programmes are generally more costly than training programmes to deliver, there is no evidence as yet to support a choice of a resilience intervention comprising of a coaching delivery method over a training delivery method. Equally, when it comes to methodology components, again as yet there is a lack of

evidence to support design methodology choices. With regard to developing resilience for leaders and managers, it will be essential to consider future research findings, and to work with an experienced and qualified practitioner who can demonstrate evidence-based examples of how various components of delivery and design methodologies have impacted specific outcomes, such as (but not restricted to) resilience levels, performance and wellbeing.

3.7 Conclusions

For some years resilience for leaders has been a focus for organisations as managers and leaders are required to lead within fast-paced VUCA environments. In 2020 the working world changed dramatically, and leaders have found themselves leading through extreme change, making high-stake decisions without being able to rely on learnings from experience to guide decisions, and taking responsibility for the wellbeing and performance of their teams who are all working through their own unique challenges. This level of uncertainty, change and pressure has the potential to impact resilience for leaders, which is known to be a buffer to stress and anxiety. This systematic review details what we know so far about developing resilience for leaders from the body of published research, which at this point in time doesn't provide any conclusions as to the most effective ways to build resilience for leaders in a dynamic workplace. There is an opportunity to develop this area of research by designing studies that explore how resilience is developed for this population, which in turn will support the future design of interventions to enhance resilience for leaders, providing leaders with the tools and strategies they need to enhance their wellbeing and performance in an extremely volatile and changeable work environment.

Chapter 4: Process evaluation of a resilience intervention for leaders: A four wave qualitative study

4.1 Abstract

As leaders step into unchartered territory and learn how to lead teams in a complex and uncertain post-pandemic workplace, the focus on psychological resilience as a buffer for stress, to promote wellbeing and support performance has increased. This longitudinal study uses a process evaluation approach to examine the factors that impact how leaders apply resilience-enhancing strategies as they take part in a multicomponent coaching and training intervention designed to build resilience. 12 participants joined the study, nine participants completed a resilience intervention consisting of on-demand training, one-to-one coaching and group coaching elements, and shared qualitative insights over five months during interviews at four time points pre-, during, and post-intervention. Factors that influenced intervention application and resilience were grouped into key themes in five areas: individual, group, leadership, organisational and outside factors, and a conceptual model detailing factors that impact intervention application and resilience is presented. Implications for practitioners, HR teams, leaders and intervention participants are discussed, as well as future research recommendations that could seek to validate and expand upon the findings reported in this study.

4.2 Introduction

As the pressures of the workplace have increased over recent years, and employees encounter stress more frequently (Galanti, Guidetti, Mazzei, Zappalà & Toscano, 2021), enhancing and supporting employee resilience within organisations has become a greater focus (Hartmann, 2019; James, 2011; Johnson et al., 2017), particularly in an increasingly volatile, uncertain, complex, and ambiguous (VUCA) global context (Rodriguez & Rodriguez, 2015).

Research on resilience at work is becoming more prominent (Hartmann et al., 2019), in part due to the protective nature resilience can provide for those dealing with pressure and stress (Fletcher & Sarkar, 2013), which makes the concept topical and relevant within the current organisational context. This has become particularly relevant as the global population navigate complexities and change associated with working through a pandemic, and new ways of working in a post-pandemic world, which has increased demand for personal resilience strategies to buffer against mental negative mental health outcomes (Verdolini, Amoretti, Montejo, García-Rizo, Hogg, Mezquida, Rabelo-da-Ponte, Vallespir, Radua, Martinez-Aran, Pacchiarotti, Rosa, Bernardo, Vieta, Torrent & Solé, 2021).

4.2.1 Resilience at work: definitions, theories, and implications for the design of leadership interventions

Definitions

Resilience has been described as positive adaptation following adversity (Vogus & Sutcliffe, 2007), and a set of characteristics that protect from negative effects associated with stressors (Fletcher & Sarkar, 2013 and is similar in definition to the construct of PsyCap which refers to personal assets an individual can use to overcome adversity (Luthans et al., 2004). Whereas resilience is described as a component of PsyCap along with hope, optimism and efficacy, in resilience research the construct of resilience stands alone and is supported by the constructs of hope, optimism and efficacy (Pangallo et al., 2015).

Resilience is also separate from the personality trait of hardiness, which refers to commitment, control and challenge when dealing with stressful events (Kobasa, 1979), but does not consider positive adaptation following exposure to adversity.

Resilience definitions, vary broadly across research papers and studies (Shaikh & Kauppi, 2010), resulting in challenges when attempting to compare research focusing on the construct of resilience, or design interventions to support the development of resilience (Macedo et al., 2014; Robertson et al., 2015). The measurement of resilience involves exploration of factors such as personal traits, outcomes following adversity or an intervention designed to enhance resilience, and recovery processes (Oshio et al., 2018).

Resilience is developed by exposure to stressors (Johnson et al., 2017), the amounts of which create ideal conditions to build resilience vary depending on the individual and the situation. Research has suggested some pressure can help to support the development of resilience, but too much pressure can have the opposite effect whereby resilience is reduced as challenges become overwhelming (Seery, 2011; Vanhove et al., 2016). It is the

process of positive adaptation following adversity (Oshio et al., 2018; Rutter, 1985) and the

application of psychological processes and behaviours (Robertson et al., 2015) that help to

build resilience reserves following the exposure to challenges. Over time, this process

becomes a protective factor, potentially reducing the impact of negative stressors (Fletcher

& Sarkar, 2013), particularly on psychological disorders (Kim-Cohen, 2007).

Research suggests resilience is a context-driven dynamic construct (Todt., Weiss & Hoegl,

2018; Tonkin, Malinen, Näswall & Kuntz, 2018). Levels of resilience differ both between

individuals as some people are more resilience to adversity in general (Sominsky, Walker, &

Spencer 2020), and within individuals as context and personal adaptation abilities and

resources interact (Förster & Duchek, 2017; Pangallo, et al., 2015; Windle et al., 2011)

influenced by personal and environmental changes (Förster & Duchek, 2017; Verdolini, et

al., 2021).

Theories of resilience development

Previous research has supported these theories of resilience development and identified

both individual resilience factors - such as traits and abilities, and external resilience factors

- such as support and organisational context as factors that have the potential to help or

hinder the development of resilience (Fletcher & Sarkar, 2013; Förster, & Duchek, 2017;

Pangallo et al., 2015). Exactly how these factors interact, and to what extent each plays a

role in shaping resilience capacity is still to be determined. For example, we know positive

adaptability is an outcome of resilience, and adversity is the cause, (Förster, & Duchek,

2017), but it is unclear at present the extent to which personal factors – such as resilience

traits, behaviours or attitudes, or contextual factors – such as workplace culture, manager style and expectations, and family support, interact and influence the outcome of positive adaptation.

Resilience has been described as the process of overcoming adversity (Förster, & Duchek, 2017), and the development of resilience requires the presence of risk and protective factors (Wright, Masten & Narayan, 2013). Risk factors, such as organisational change, navigating a pandemic, or undesirable role or structural changes make resilience a necessary and fundamental element of adaptation. Protective factors, such as self-esteem, social support, or trust, help to buffer against the negative impacts of dealing with risk factors and promote positive adaptation. Both risk and protective factors interact and can culminate over time and may be more prevalent or absent at different points in time (Masten, 2001), pointing to the dynamic nature of resilience as a process.

A prominent theory that explains how resilience is developed is the broaden and build theory (Fredrickson, 2009), whereby positive emotions build social, intellectual, and cognitive resources, which can be used to support positive adaptation and behavioural responses to challenges in the future. These resources are broadened in ways such as starting positive relationships (which can lead to an effective support system), initiating the practice of gratitude (which can lead to an increasingly positive perspective when adversity occurs), or prioritising physical or mental health activities (which can lead to building personal resources such as physical or psychological energy or capacity to deal with challenges effectively), which over time are built upon to continue to strengthen resilience reserves. The theory proposed by Fredrickson (2009), suggests as individuals find ways to

grow their resilience reserves, they commit to continuing this process, whilst testing and adding new approaches to their toolkit. Hence, over time resilience reserves are continually bolstered.

Evidence for the support of the upward spiral of emotions impacting future wellbeing, as described in the broaden and build theory has been put forward (Fredrickson, Cohn, Coffey, Pek & Finkel, 2008; Fredrickson & Joiner, 2002), detailing the process of positive emotions compounding over time to build personal resources such as purpose and support, which can predict higher life satisfaction and lower depressive symptoms in the future. It's important to point out however, these studies utilise self-report measures, and it is unclear how long positive outcomes last post-intervention and how individuals can sustain the resources they have built long-term. This theory suggests a focus on positive emotions, and points to 'negative' emotions being useful in survival situations (Frederickson, 2001), but fails to address how and when less desirable emotions can be useful, and even necessary in life, which according to alternative resilience philosophies such as stoicism is an approach that plays a role in building resilience (Irvine, 2019). Broaden and build theory is an established and evidence-based component of resilience-building programmes and is an approach to building resilience in an intervention context that focuses on actions the individual can take to increase their resilience reserves.

An alternative resilience development theory is the conservation of resources theory developed by Hobfoll (1989), which describes resilience as a personal resource shaped by social resources and the contextual environment (Hartmann et al., 2020). This theory aligns with findings highlighted in a systematic review published by Pangallo et al. (2015), and

suggests social support, and factors within organisational context or environment have the potential to support or hinder the development of individuals in the workplace. The theory explains how individuals are motivated to develop, grow, and protect resources such as situational factors (for example, autonomy and flexibility at work) and personal characteristics (such as hope and optimism), to deal with adversity and minimise the impact of stress (Hobfoll, 1991).

Evidence to support the theory that resource loss has a significantly greater negative impact on an individual compared to the positive impact associated with resource gain has been presented in a meta-analysis study (Lee & Ashforth, 1996). In a working context, this could be evident in a situation whereby the negative impact of the threat of redundancy would have a far greater (and negative) impact than the positive impact associated with the introduction of a flexible working policy. Hobfoll (1989) states depletion of resources can create negative outcomes (such as stress and anxiety) for an individual, as can the threat of resource loss. Both these scenarios can lead to an increased focus on the protection of remaining resources, as presented in meta-analysis study findings (Halbesleben, 2010).

The conservation of resource theory has been critiqued due to inconsistent measurement of resources across studies, and it is unclear how this theory impacts the development and maintenance of resilience over time (Halbesleben, 2014). It is also unclear how individuals decide on the value they place on resources, and how the conservation and acquisition process works for individuals (Halbesleben, 2014). There is however evidence to suggest conservation of resources theory can support the development of resilience to adversity, (Halbesleben, 2010; Lee & Ashforth, 1996). These broaden and build theory and

conservation of resources theory of resilience development explain the role of both personal resources (Fredrickson, 2009) external resources (Hobfoll, 1989) in the development of resilience, and can work in tandem to underpin intervention design to support the development of resilience from a personal and contextual perspective.

Resilience and the leadership population

Much of the research into resilience interventions in the workplace has focused on the working population homogenously (Robertson et al., 2015; Vanhove et al., 2016), and has not specifically explored how resilience is developed in the leadership population, defined as those in a position that guides and influences others to achieve shared goals (Bennis & Nanus, 1985; Yukl, 2006). Leaders are in a unique position whereby they have been facing increasing pressure and high levels of stress (Roche, Haar & Luthans, 2014) as they are exposed to changeable and challenging environments, and the complex role expectations associated with organisational turbulence (Bernin, 2002; Holmberg et al., 2016), which may have been exasperated by leading teams through a pandemic (Verdolini et al., 2020). Leaders also have the added pressure of being in the position where they can potentially support or hinder the development of resilience for members of their teams (Förster, & Duchek, 2017) and are responsible for creating conditions in which teams can develop resilience (Avey, Avolio & Luthans, 2011; Gooty, Gavin, Johnson, Frazier & Snow, 2009; Pangallo et al., 2015).

In the uncertain and complex organisational landscape that has become the norm, leaders need to increasingly focus on learning and adaptation to remain effective (Holmberg et al., 2016), and ultimately build their resilience reserves, particularly when navigating turbulent and uncertain working conditions (Holden & Roberts, 2004; Morris, Hassard & McCann, 2008). For leaders, resilience is a form of protection that buffers against stress and reduces the likelihood of burnout (Förster, & Duchek, 2017; Zunz, 1998).

In a systematic review exploring design and outcomes for resilience interventions for leaders and managers (Roberts, Yarker & Lewis, in prep), the reported impact on outcomes for leaders taking part in a resilience intervention was lacking and mixed. Two of the five studies included in the review reported positive and significant results (Grant et al., 2009; Sherlock-Storey et al., 2013), two reported no significant results (Abbott et al., 2009; Brendel et al., 2016), and one study reported some positive and significant results (Reitz et al., 2020). The authors identify the challenges in drawing conclusions from the published research in this area due to the lack of research that has explored the development of resilience within the leadership population, and due to the low-quality assessment categorisation across studies.

Intervention delivery method, content and structure

A systematic literature review conducted as part of this thesis (Roberts, Yarker & Lewis, in prep) details varying training and coaching design methodology to support the development of resilience for leaders, ranging from online training programmes (Abbott et al., 2009) to one-to-one, in-person coaching interventions (Sherlock-Storey et al., 2013), face-to-face

training (Brendel et al., 2016; Grant et al., 2009; Reitz et al., 2020). This illustrates the use of varying delivery methods that are utilised by practitioners when delivering resilience interventions for leaders. Delivery timeframes outlined in the SLR chapter of this thesis generally range from eight to ten weeks (Roberts, Yarker & Lewis, in prep), suggesting this is an acceptable design approach to apply to this empirical research.

The SLR chapter in this thesis highlighted a range of theoretical approaches taken to shape and design interventions in previous studies. Two studies were designed to teach participants seven elements of resilience (Abbott et al., 2009; Sherlock-Storey et al., 2013), although completely different components of resilience were the focus of these two interventions. Interestingly, not all interventions that were included in the systematic review (Roberts, Yarker & Lewis, in prep) focused exclusively on the outcome of developing resilience, one intervention was designed to develop leadership skills using a cognitive-behavioural solution-focused framework (Grant et al, 2009) and another focused on the development of mindfulness skills (Brendel et al., 2016; Reitz et al., 2020). As concluded in the SLR chapter of this thesis, future research would benefit from utilising an intervention designed specifically to develop resilience (rather than leadership skills).

As detailed in the SLR chapter (Roberts, Yarker & Lewis, in prep) exploring design and outcomes for resilience interventions for leaders and managers yielded only five research papers, highlighting the limited published research in this area. In addition to the lack of research, the quality assessment process yielded low quality overall, which poses challenges when determining outcomes associated with resilience interventions.

Researchers and practitioners need to understand more about how and why resilience is developed in the workplace using a qualitative design approach (Förster & Duchek, 2017; Roberts, Yarker & Lewis, in prep; Robertson et al., 2015), which supports the qualitative design in this empirical research. Four of the papers included in the SLR in this thesis were quantitative in design (Abbott et al., 2009; Brendel et al., 2016; Reitz et al., 2020; Sherlock-Storey et al., 2013;), with one study incorporating a mixed design, but the qualitative element consisted of intervention satisfaction forms and feedback not relating to the development of resilience (Grant et al., 2009). The lack of qualitative research explains current challenges practitioners face in understanding how resilience interventions impact the development of resilience for leaders, which poses a barrier to delivering evidence-based interventions. As concluded in the SLR chapter of this thesis, future research would benefit from a qualitative approach to further understand how leaders builds resilience in an intervention setting and would complement quantitative research that points to outcomes associated with taking part in interventions (Roberts, Yarker & Lewis, in prep).

4.2.2 Process evaluation

Published systematic reviews and meta-analysis papers have reported interventions designed to build resilience have the potential to influence a myriad of positive outcomes, including physical and mental health (Hartmann et al., 2020; Robertson et al., 2015; Vanhove et al., 2016), wellbeing (Avey, Reichard, Luthans & Mhatre, 2011; Robertson et al., 2015), performance (Branicki et al., 2019; Hartmann et al., 2020; Robertson et al., 2015: Vanhove et al., 2016), satisfaction, engagement and commitment at work (Branicki et al., 2019; Hartmann et al., 2020) and openness to change (Hartmann et al., 2020). It is

important to note however, across systematic reviews and meta-analyses that report on outcomes associated with resilience interventions, effect results are often inconclusive, modest, or include results reported in studies that do not meet quality assurance criteria (Roberts, Yarker & Lewis, in prep). This has resulted in a lack of conclusive data to illustrate how and why resilience interventions are effective.

Pre- and immediate post-intervention measurement designs are not sufficient at this stage of research development (Johnson et al., 2017; Robertson et al., 2015) as concluded in the SLR chapter of this thesis, resilience is a dynamic construct (Pangallo et al., 2015; Roberts, Yarker & Lewis, in prep) that may take time to develop, and may change over time. The SLR chapter also highlighted previous research has also opened questions about the effects of interventions over time, as a lack of longitudinal data means conclusions regarding long-term effects associated with taking part in interventions cannot be drawn (Roberts, Yarker & Lewis, in prep; Robertson et al., 2015). As found in the SLR chapter, incorporating longitudinal design methodology into future research could seek to address this (Johnson et al., 2017; Roberts, Yarker & Lewis, in prep; Robertson et al., 2015).

The SLR chapter of this thesis concluded at this stage in the journey of research into understanding how resilience is developed in leaders, it would be beneficial to understand the process of building resilience for the leadership population, to clarify specific intervention elements that impact outcomes, and to deepen understanding of the factors that impact resilience for leaders, such as personal factors and external factors (Förster & Duchek, 2017; Hartmann et al., 2020; IJntema, Ybema, Burger & Schaufell., 2021; Pangallo et al., 2015; (

Roberts, Yarker & Lewis, in prep; Robertson et al., 2015). A process evaluation methodology represents an opportunity to further explore this.

The aim of a process evaluation is to collect data about intervention planning and implementation to understand the relationship between the intervention and outcomes of interest (Arends, Bültmann, Nielsen, van Rhenen, de Boer & van der Klink, 2014), and qualitative process evaluation has the "potential to tie together meaning, context and narratives of the intervention" (Abildgaard et al., 2016, p.9). Nielsen and Abildgaard (2013) propose a process evaluation best-practice should consist of stages including: intervention initiation, action planning, implementation, and effect evaluation, proposing the use of the Integrative Process Evaluation Framework (Nielsen, De Angelis, Innstrand & Mazzetti, 2022), which in a qualitative research context include exploration of contextual factors, process mechanisms and mental models that shape intervention outcomes during and post-intervention (Nielsen & Randall, 2013).

Process evaluation studies can help to identify the specific intervention components that impact outcomes, as was explored in a process evaluation study published by Arends et al. (2014) which focused on the impact of a problem-solving intervention on sickness absences for employees experiencing mental health disorders. Although the method of evaluation process can be transferred to differing intervention contexts, a specific process evaluation process needs to be developed for each intervention (Arends et al., 2014), which means researchers must draw on tried and tested methods utilised in the past and adapt the process to meet research aims and objectives.

Nielsen and Abildgaard (2013) propose that a process evaluation broadens the view of mechanisms that can explain intervention outcomes, considering factors such as personal attributes, manager attitudes, organisational context, and intervention design, all of which can be explored in depth, utilising qualitative methodology (Abilgaard et al., 2016). A process evaluation approach allows for investigation of contextual factors that could influence resilience for leaders (Nielsen & Randall, 2013), the relevance of which is more topical than ever considering the extreme change many leaders have encountered whilst leading teams through a pandemic (Galanti et al., 2021; Sominsky et al., 2020; Verdolini et al., 2021).

To support the process evaluation process, it would be useful to utilise a framework to support exploration of personal and contextual factors that impact wellbeing and performance in the workplace, particularly as stated in the SLR chapter of this thesis, resilience is a dynamic construct, shaped by contextual factors (Roberts, Yarker & Lewis, in prep). In a systematic review and meta-analysis exploring resources that predict employee wellbeing and performance, Nielsen, Nielsen, Obgonnaya, Känsälä, Saari & Isaksson (2017) presented a framework that incorporates four levels of workplace resources categorised into individual, group, leader, and organisational levels. This was later extended to include an extra level of overarching social context or outside factors (Nielsen et al., 2018), namely the IGLOO framework. Utilising an existing framework designed to understand the role of individual and situational factors that can impact wellbeing and performance has the benefit of guiding and shaping process evaluation, which is particularly useful to use as a guide when exploring factors with multiple participants at multiple timepoints, and addresses recommendations from previous research to deepen understanding of personal and

external factors that impact resilience for leaders (Förster & Duchek, 2017; Hartmann et al., 2020; IJntema, Ybema, Burger & Schaufell., 2021; Pangallo et al., 2015; Robertson et al., 2015), both of which are included in the IGLOO framework.

An alternative theory of person-environment fit was explored as a framework that could be used to shape question design. Although in many regards person-environment fit theory would be an interesting lens to explore the individual and contextual factors that impact the development of resilience for leaders taking part in an intervention, as previous research has concluded stress can arise when there is a misfit between the personal expectations and environmental demands (Edwards, Caplan & Harrison, 1998), the IGLOO framework provided an additional level of granularity in understanding which contextual factors impacted the development of resilience for leaders taking part in a resilience intervention. In particular, the IGLOO framework allowed for the exploration of four distinct contextual factors – group, leader, organisational and outside, which could provide a level of detail that would extend conclusions proposed by previous research (Roberts, Yarker & Lewis, in prep).

4.2.3 Study aims and objectives

This study aims to understand factors that affect resilience for leaders taking part in a multicomponent coaching and training intervention designed to develop resilience. Participants were interviewed at four time points, ranging from pre- to post-intervention, to determine both internal and external factors that impact how they are applying the resilience tools and strategies they're learning and exploring throughout the intervention.

The IGLOO framework developed by Nielsen et al. (2018) to support a healthy return to work process for those who have been absent due to mental health disorders incorporates individual and contextual factors that can impact how well an employee adjusts when returning to the workplace. The five levels identified by Nielsen et al. (2018) include individual, group, leader, organisation and overarching social context. This framework is appropriate to shape semi-structured interview questions, and the thematic analysis process when coding data as it relates to individual and contextual factors that play a role in both building resilience, and intervention implementation.

The questions explored in this research include:

- What factors impact development of resilience for leaders during and after an intervention?

- What factors impact application of resilience strategies for leaders throughout an intervention?

- How do these factors change for leaders over time?

This contributes to the research in the areas of resilience and leaders by painting a picture of how and why resilience is developed following the experience of an intervention, and how this process develops pre-, during and post-intervention. Deepening understanding in this area will enable practitioners to design and deliver resilience interventions with the best chance of creating the desired output of enhancing resilience for leaders, and it will help HR professionals and leaders within organisations to shape policies, offer support, and focus on job design in a way that supports the development of resilience for leaders who are taking part in coaching and training interventions.

4.3 Method

4.3.1 Participants

Table 8 provides an overview of participant details, experience as a leader and number of group and one-to-one coaching sessions each participant joined. According to Braun and Clark (2013), participant numbers should be based on research design and large enough to identify patterns across data, but not so large that saturation of data occurs, for "small projects, 6-10 participants are recommended for interview" (Fugard & Potts, 2015, p.669). Considering the longitudinal nature of this process evaluation study, whereby participants were interviewed at four time points, eleven was a feasible and practical number of participants, providing rich and detailed qualitative data, which aligned with the number of participants the researchers had access to within the organisation where the intervention took place. This number of participants also allowed for effective group coaching sessions (whereby the entire participant group would join each group coaching session). According to Britton (2013), group coaching participant numbers should be dependent on the group coaching time allocation, ensuring all participants have an opportunity to communicate during the session. The group coaching sessions for this intervention were 90 minutes long (as agreed to meet budget requests with the client), and twelve or less participants allowed for a thorough exploration of the issues that arose in the sessions.

A convenience sampling method was used, whereby a function within a banking organisation commissioned the delivery of a coaching and training programme for senior

leaders (as categorised by an internal grading system) across the global function, and the function leader agreed to the intervention being part of process evaluation research. All of the leaders who took part in the intervention had managers with their own teams reporting in to them, and were described by internal Human Resources systems as experienced senior leaders. Diversity was incorporated into the sample by way of gender, location, and experience as a leader.

12 leaders across the function, defined as individuals who guide and influence others to achieve shared goals (Bennis & Nanus, 1985; Yukl, 2006), were invited to take part in the intervention. Of the 12 participants in the research intervention group, 11 expressed an interest and agreed take part in the research and nine completed the research and intervention.

Selection criteria for those taking part stated all participants must be at a senior leader level (this was easily identifiable using the grading structure within the business where the intervention was run), whereby all senior leaders had managers who ran teams reporting into them. Participants were asked to commit to all group and one-to-one coaching dates and agreed to follow the on-demand learning schedule. All participants took part in four interview sessions. Of the 12 people invited to join the programme, 11 were able to commit to these stipulations, and it was these people that joined the programme

Two participants dropped out of the intervention and study due to workload and did not complete the intervention or research. According to Snape et al. (2016) the reporting of attrition data is an important part of the process when assessing data quality, so for the

purposes of this study, attrition data has been explored, although separately to data from those that completed the process evaluation study.

As presented in Table 8, the participant group comprised of six males and five females (pseudonyms have not been included in this table to protect anonymity). Participants were based across five countries, including United Kingdom (UK), United States (US), United Arab Emirates (UAE), China, and India, which allowed for the exploration of potentially different cultural perspectives (both at an organisational and personal level). All participants were English language speakers, although English wasn't the first language for some participants. Ages ranged from 42-52, and the range in experience as a senior leader was four months to six years, again allowing for exploration of differing perspectives based on experience levels. Due to the homogenous nature of the sample regarding the organisation and functional employment commonalities, it was important to incorporate diverse views in other ways, such as gender, location, and experience.

	Gender	Age	Region	Team members	Time as senior leader	Group coaching sessions	1-2-1 coaching sessions	Interview data points
1	Male	45	UK	12	2 years	3	3	4
2	Female	42	UAE	13	2 years	3	3	4
3	Female	50	USA	12	6 years	3	3	4
4	Male	52	India	8	3 years	3	3	4
5	Male	47	UK	6	2 years	3	3	4
6	Female	47	China	5	1 year	3	3	4
7	Male	52	UK	12	1 year	3	3	4
8	Female	49	China	5	4 years	3	3	4
9	Male	48	China	4	1 year	3	3	4
10*	Female	43	China	11	4 months	2	2	2
11*	Male	45	China	8	2 years	2	2	2

*Incomplete data set, explored separately to full data
Table 8: participant details

4.3.2 Ethics

Ethical approval was granted from Birkbeck, University of London, and as a chartered and registered psychologist, the researcher adhered to the ethical code of conduct outlined by British Psychological Society and Health and Care Professions Council. Participants provided informed consent, which focused on factors such as maintaining confidentiality, detailing how data would be stored and used, mental health support (if required), and privacy of participants.

4.3.3 Intervention design

The intervention delivered comprised of three components: on-demand training, group coaching and one-to-one coaching, as outlined in Figure 2.

The content of the training and was not the focus of the study. The intervention design could not replicate any of those described in the five studies included in the SLR chapter because the curriculum for each wasn't described in enough detail to replicate, and research into the design and delivery methods used concluded that the intervention programmes were not accessible.

The intervention design used was based on a curriculum developed by the Mayo Institute and, which is accessible to those trained in the areas and has been widely applied by the researcher in their practice, having been designed using an evidence-driven approach. The intervention was adapted for virtual intervention delivery (which was required as we were in a pandemic). The researcher who designed and delivered the intervention is a chartered

psychologist, registered coaching psychologist and experienced in delivering coaching and training interventions with the aim of enhancing resilience.

All aspects of the intervention were delivered virtually, in part due to the diverse geographical location of participants, coupled with the fact many regions were in the midst of navigating lockdowns and a global pandemic. This remote approach has previously been found to be beneficial, for example, a study in Korea compared the effectiveness of a video-conferencing intervention compared with a face-to-face delivery method in building employee resilience and reducing stress, and both approaches were found to be effective (Kim et al., 2018).

On-demand training, whereby participants can complete online training alone and at a time that suits them is a delivery method that has been deployed in a previous research study designed to enhance resilience utilising mindfulness-based resilience training design (Joyce, Shand, Bryant, Lal & Harvey, 2018), another designed to manage stress and build resilience (Rose et al., 2013), and an intervention designed to determine the impact of a resilience intervention for sales managers (Abbott et al., 2009). This is also a method that has been deployed by the researcher during previous programme delivery, and in this study the three training modules (ranging from forty-five to sixty minutes long) comprised of an overview of resilience research, evidence-based techniques that can be used to enhance personal resilience as a leader, and evidence-based practices for supporting team resilience and creating a culture of resilience within the organisation, based on resilience curriculum proposed by the work at the Mayo Clinic carried out by Kamath et al. (2017) and as used in previous research (Cornum, Matthews & Seligman, 2011).
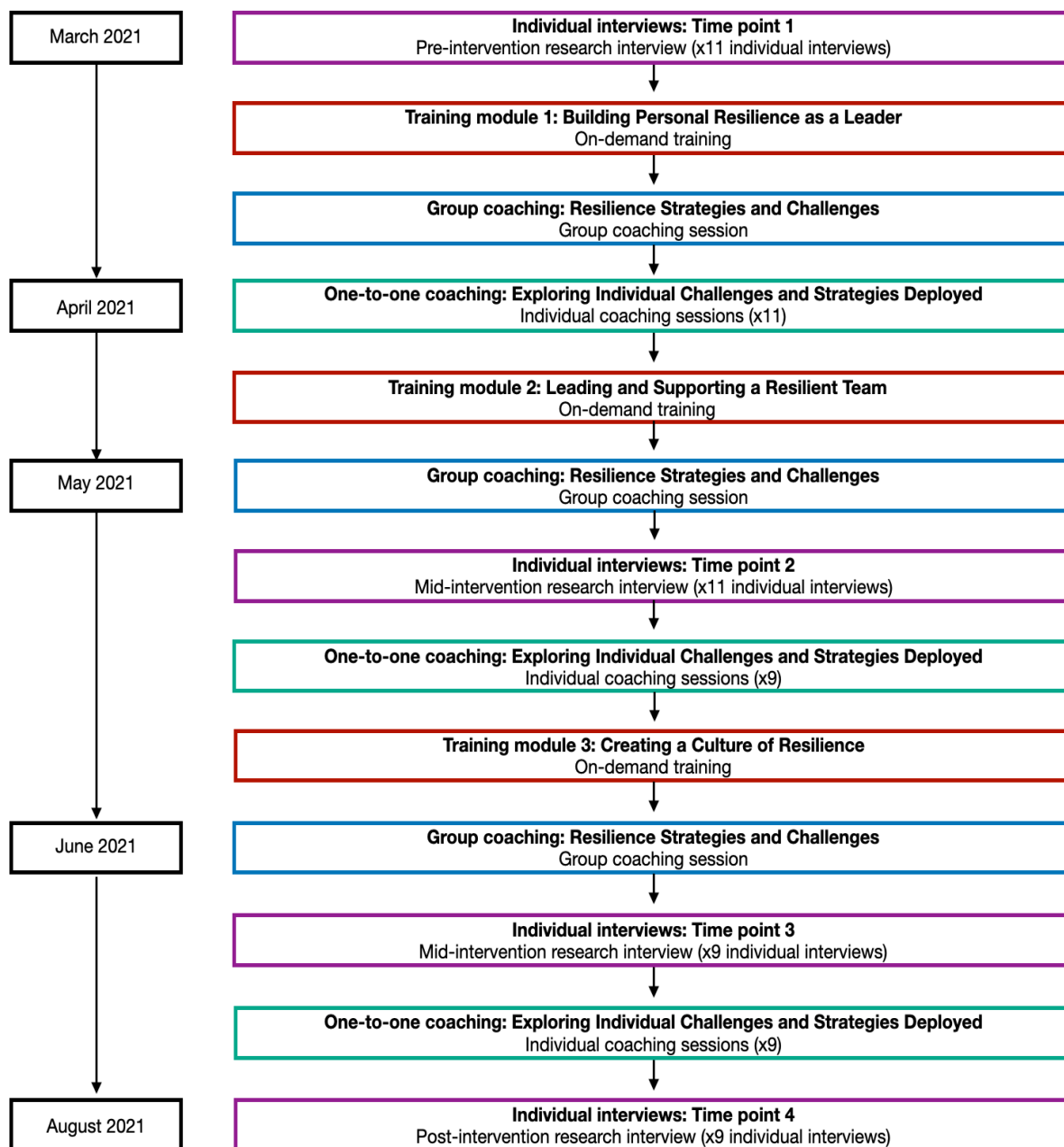
Figure 2: Intervention delivery timeline

Each participant took part in three ninety-minute group coaching sessions, which followed

the self-directed on-demand learning modules. Group coaching as a practice is growing

within an organisational coaching setting (Britton, 2013), particularly in an increasingly

matrixed, virtual, and complex organisational context (De Vries, 2019). This method of

coaching is gaining momentum as an intervention due to the reduced strain on budgets within organisations (when compared with one-to-one coaching), and provides collective value (Bonneywell & Gannon, 2021) as a tool to support collaboration and social learning (De Vries, 2019). In this study, the group coaching framework outlined by Britton (2013) was followed, which included considerations such as managing personality dynamics, building trust, generating peer conversation, and learning, and fostering accountability. The purpose of the group coaching sessions was to discuss learnings generated from on-demand learning, discuss resilience-enhancing strategies and progress made on testing strategies, explore resilience challenges, and offer advice and support, both from a peer-coachee perspective and a peer-to-peer perspective.

At three time points, each participant took part in sixty-minute one-to-one coaching, a method that has been practiced in previous interventions designed to enhance resilience (Sood et al., 2011). In this study, a cognitive-behavioural solution-focused coaching approach was taken, as outlined by Neenan and Dryden (2013), a methodology in which the coach is accredited to use with coaching clients, and an approach replicated in previous research design (Kim et al., 2018). During the one-to-one sessions, coachees explored personal challenges faced regarding the development of resilience and supporting resilience development for their team members. Coachees explored strategies and techniques to help build resilience in their specific situations, and progress on both the development of resilience and the practice of resilience strategies was explored.

4.3.4 Data collection

A qualitative research approach was taken to understand the process of building resilience when taking part in an intervention. Each participant that completed the research intervention (*n*=9) took part in four forty-five to sixty-minute semi-structured interviews, which took place pre-, during and two months post-intervention. Two participants completed interviews at two time points rather than four, their interview data was analysed separately to data collected by participants who completed interviews at all four time points. The interviews were conducted via Microsoft Teams, participants provided written consent for the recording and transcribing of the interviews, and the anonymous presentation of findings associated with their interviews.

Previous research has suggested qualitative data is required to understand how and why resilience is developed following some resilience interventions (Robertson et al., 2015), but a framework to shape qualitative data collection hasn't been proposed. Interview questions were devised using the IGLOO framework, (as presented in Appendix 5) outlined by Nielsen et al. (2018) as the model was an appropriate fit for the research question and has been utilised in published wellbeing interventions. An assumption was made that the five levels including individual, group, leader, organisational and outside contextual factors would be relevant to this research, but the semi-structured approach to questioning allowed for additional themes outside of this framework to emerge. The aim of the interviews was to understand participant experience of developing resilience as they took part in the intervention, and to identify patterns that emerged across participant interviews.

4.3.5 Data analysis

The recorded interviews were uploaded in MP3 audio format to NVivo Transcription. Initial transcriptions were reviewed against recordings to check accuracy and edits manually conducted to ensure transcription was accurate and to ensure the transcription reflected exact language used by participants (Nascimento & Steinbruch, 2019). At this stage, pseudonyms were used to replace participant names to protect participant identity, and the final transcripts were uploaded into NVivo to support the coding process.

A theoretical thematic analysis approach was taken, replicating previous workplace resilience intervention research (McDonald et al, 2013), whereby analysis is guided by existing theory and concepts (Braun & Clark, 2013), in this case the IGLOO framework developed by Nielsen et al. (2018). The benefits of thematic analysis include the flexible approach to analysing data as thematic analysis can be conducted in many ways, and the fact this approach can be used to develop a critical analysis that can identify ideas and concepts that underpin the explicit content. This approach can also support the identification of assumptions and meanings in the data (Braun & Clark, 2006) and is an appropriate method to maintain the richness of data whilst also summarising a large amount of data in a manageable way (Braun & Clark, 2006).

The thematic analysis methodology was chosen over an alternative approach of Interpretative Phenomenological Analysis, which is used to provide a detailed examination of lived experience (Braun & Clark, 2006) and is not affected by pre-existing theoretical preconceptions (Smith & Osborn, 2015) and has been described as effective in research where the research topic is complex and emotionally intensive (Smith & Osborn, 2015. This methodology has been described as lacking substance and theoretical flexibility of thematic

analysis (Braun & Clark, 2013) and would have provided a great level of detail about what participants were experiencing, but it might not have provided a comparable insight across timepoints indicating why those experienced occurred.

Grounded Theory was also explored as a research method which allows for new theories to emerge from a data set (Braun & Clark, 2013), which would have been a more inductive approach. This methodology could have worked well for this research, but a deductive approach was chosen to simplify the coding process for the large data set.

The IGLOO framework developed by Nielsen et al. (2018) was used to provide a structure to interview questions and the analysis. This approach was taken due to the alignment of the IGLOO framework and the research topic and following recommendations from previous research that suggested exploring how factors such as organisational culture, leadership practices and personal factors impact resilience interventions (Förster & Duchek, 2017; Hartmann et al., 2020; IJntema, Ybema, Burger & Schaufell, 2021; Pangallo et al., 2015; Robertson et al., 2015). The IGLOO framework allowed for a level of granularity in exploration that exceeded that associated with alternative theories such as person-environment fit (Edwards et al., 1998), focusing on four separate facets of environment – group, leader, organisation and outside – alongside a focus on individual factors that could impact the development of resilience for leaders taking part in a resilience intervention. This approach helped to organise the data, which laid the foundations for a rich analysis process (Boyatzis, 1998).

Each transcript was completely coded using functionality within the Nvivo programme. All potentially relevant data to the research question were identified in the initial coding stages, and later divided into themes (Braun & Clark, 2013), which were reviewed by listening to the recordings again and re-reading transcripts in a mixed order to ensure the order in which the data was analysed didn't affect the interpretation of themes (Vasileiou, Barnett, Thorpe & Young, 2018).

Based on the incorporation of the IGLOO framework to shape the semi-structured interview questions, the decision was made to take a deductive 'top down' approach when categorising codes into broader themes that fall into the five IGLOO levels: individual, group, leader, organisational and outside context, and an assumption was made that these themes would be relevant to the data set. In addition, an inductive 'bottom up' approach was used to identify factors that didn't fit withing the IGLOO framework.

Both a deductive and inductive approach would have been suitable for this research. An entirely inductive approach was considered, whereby themes would be allowed to emerge without the use of a framework to shape interview questions and interpretation. Had this approach been taken, alternative themes would have emerged, and the results would not have been restricted to the facets of the IGLOO framework. However, due to the complexity associated with managing the interview process for eleven senior leaders and considering the limited time they had available for interviews, a semi-structured approach to interviews allowed for focus and speed during the interview process. A deductive approach made the analysis process more structured for researchers, which was the preferred approach given

the complexities of analysing data for forty separate interviews, divided over four time points.

The coding process was iterative, whereby codes developed over time as the researcher was immersed in the data. Following the first stage of shaping themes, a second researcher provided a new perspective on sub-themes that could be merged, shifted to alternative high-level themes, or removed. Finally, researchers immersed themselves once again in the data and codes and agreed on sub-themes that emerged in the five high-level theme categories, and definitions were agreed for each high-level theme and sub-theme.

In the final stage of analysis, extract samples were selected to portray how sub-themes relate to the research question, producing a detailed analytical report to understand participant experiences of resilience development throughout the intervention process. It's important to reflect on the subjective nature of the thematic analysis process at this stage, whereby the researcher's perspective and experiences can shape both the coding and reporting process (Braun & Clark, 2013), which is why it was critical for more than one researcher to take part in the data analysis process, and to only report strong themes whereby more than one participant detail similar experiences or views.

During the data analysis process, it became clear that alternative factors not specified within the IGLOO framework (such as exposure to challenges across all IGLOO levels) were identified as factors that impact both the development or resilience and intervention implementation, so it was important to explore these during the data analysis process, rather than limiting data exploration to the IGLOO framework factors only.

4.5 Results

Key findings from this research are detailed in Table 9, and relevance as captured during interviews at each time point has been presented. Within each of the IGLOO levels, two or three key factors were highlighted as impacting both the development of resilience and intervention implementation

Specific programme design components such as training, one-to-one and group coaching were discussed, participants shared their views on the components of the intervention that supported their resilience development and intervention implementation, and how these elements worked together to create an overall impact. Exposure to challenges was also presented as a key factor in both the development of resilience and implementation of resilience strategies.

Theme	Sub-theme	Definition	Focus			
			T1	T2	T3	T4
Individual	1.1 Motivation and commitment	Personal motivation and commitment to develop resilience and practice resilience-enhancing strategies.		✓	✓	✓
	1.2 Resilience self-efficacy and resourcefulness	Belief in own ability to develop resilience and resourcefulness to find solutions to overcome adversity.			✓	✓
	1.3 Personal boundaries	The practice of defining and respecting boundaries between commitments in life, considering family dynamics, personal commitments, and performance in the workplace.	✓	✓	✓	✓
Group	2.1 Colleague support	Guidance, advice, and inspiration offered from team colleagues, and peers that are part of the intervention.		✓	✓	
	2.2 Learning from others	Openness to learning about experiences and strategies to build resilience from others within the team, and peers who are part of the intervention.		✓	✓	✓
Leader	3.1 Manager attitude and behaviours	Attitudes and behaviours displayed by direct and indirect managers, which can either hinder resilience, or help to build resilience, either through encouragement or role-modelling.	✓	✓	✓	✓
	3.2 Manager support	Guidance, advice, and support from direct and indirect managers that supports both the development of resilience and psychological safety (reducing the fear of making mistakes).		✓	✓	✓
Organisation	4.1 Organisational change and uncertainty	Uncertainty caused by extreme organisational change, including threats to job security, impending redundancies, and changes to reporting lines.	✓	✓	✓	✓
	4.2 Job design	Roles and responsibilities assigned to employees, including factors such as workload and pressure to achieve specific outputs with less resources, working practices (such as remote working), and organisational matrix structure.	✓	✓	✓	✓
Outside factors	5.1 Family and friend support	Advice, guidance, and inspiration provided by close family and friends, or empathy and concern displayed by others offered to help an individual facing adversity.	✓	✓	✓	✓
	5.2 Global cultural factors	Regulatory and legislative practices and pressures, and geopolitical considerations that influence and shape outputs and performance.		✓	✓	
	5.3 Covid-19 pandemic	Challenges associated with being isolated from team members, worry and fear for personal safety and the safety of others, and responding to unknown challenges without the benefit of historical data or experience to guide best practice.	✓	✓	✓	
Overarching factors	6.1 Exposure to challenges	Experiencing challenges that can relate to each of the five IGLOO levels, providing the opportunity to apply resilience strategies and build resilience skills.		✓	✓	✓
	6.2 Programme elements and design	Specific design elements that support or hinder intervention learning objectives.			✓	✓

Table 9: IGLOO and overarching factors impacting resilience development and intervention implementation

4.5.1 IGLOO factors

Participants discussed factors that impacted both the development of their resilience, and

intervention implementation across all four time points. Key themes were categorised

under the five IGLOO headings (individual, group, leadership, organisation and outside),

creating sub-themes, detailed in Table 9.

Individual factors

Key themes in within the individual factor are presented in Table 10.

Individual factor sub-theme	Focus			
	T1	T2	T3	T4
1.1 Motivation and commitment		✓	✓	✓
1.2 Resilience self-efficacy and resourcefulness			✓	✓
1.3 Personal boundaries	✓	✓	✓	✓

Table 10: Individual factor sub-themes at four time points

Motivation and commitment (theme 1.1)

Across three time points (T2, T3, T4), participants detailed how critical their readiness,

motivation and desire were to practicing strategies that supported their resilience

development over the long term, and to remain focused on their resilience development

journey, particularly in a fast-paced and pressurised environment. This sentiment fits with

the broaden and build theory proposed by Fredrickson (2009), whereby individuals build

resilience by broadening the skills required to do so and build on these skills over time. The

findings in the interviews perhaps delve a little deeper into this theory, whereby

participants proposed they required motivation, enthusiasm, and commitment to building

resilience as a foundational step in their broaden and build resilience journey. For example,

when asked what you need to happen to build your resilience throughout the programme, Rumi replied:

> *"I think, honestly, the biggest one is just making time for it and committing to testing new strategies […] So I think part of it is just setting the right expectation for myself to say, OK, I have this much time to commit. I know if I commit this time, it may be a little painful right now, but eventually will help get to a point that it will help more than the pain that I have to endure, finding the time to do it now."*

During the final interview with John, he explained:

> *"I'm struggling to take to make my resilience a focus, which I would say has impacted how much my resilience has changed. It's not that I don't want to make it a priority, more I'm struggling to find the motivation."*

Interestingly, motivation and commitment were at times explained as stand-alone personal resources directed by the individual alone, but at other times described as affected by outside factors such as workload, fear of redundancy and an increasingly changeable environment at work, providing an example of how each of the five IGLOO factors and sub-themes impact the development of resilience during an intervention as a stand-alone factor, but also work together to create further impact.

It appears motivation and commitment to developing resilience as part of the programme increased as participants learnt how to do this by taking part in the intervention. At the first

time point (pre-intervention), participants were unaware of how their motivation to develop resilience, and their commitment to practicing strategies to build resilience would impact how their resilience developed long-term.

Resilience self-efficacy and resourcefulness (theme 1.2)

Towards the final two interviews, the theme of self-efficacy and resourcefulness emerged during the interviews. Participants noted that when they considered themselves capable of dealing with challenges, they were more likely to behave in a resourceful manner to deal with obstacles. This reflects findings in a study of entrepreneurs which found resilience resourcefulness - whereby an individual draws on their skills, abilities, and support of those around them in challenging situations - is one of the greatest predictors of entrepreneurial success (Ayala & Manzano, 2014). As Marlon explained about his experience of self-efficacy in his second interview:

> *"But I'll work it out. And I know I can work it out. I know I can come up with an answer of how are we going to do it and share that with the business, which gives me confidence and makes me feel like I can handle challenges."*

Also at the second interview time point, Rumi described how resourcefulness is something she learned about in the training programme, and helps her to feel that she can tackle challenges:

And at times it's like, you know what? […] Take a breath, look at what's around you as far as resources that are. I mean, how many things do we have available to us online? Can I do research? Is there an article? Can I read that? Do I have something that I already see in my toolbox that I kind of forgot was there then by just taking a minute and going, OK, you know, I've done this before, let's go back and refresh that that tool kit a little bit and see what I can do. So, it really depends on the problem and the situation, and finding ways to figure out the answer."

In contrast, during the third interview, Matthew explained that throughout the programme, sometimes he would feel he had the capability to deal with work challenges, and at other times he didn't:

"I just didn't deal with that confrontation well, whereas normally I can find a way to respond well or find the answers my manager is looking for. I just felt depleted to be honest."

It was clear throughout the interviews that both resourcefulness and self-efficacy can be affected by other sometimes unpredictable factors outside of the individual's control, such as job design and global challenges associated with working through a pandemic.

Personal boundaries (theme 1.3)

At each stage of the interview process, the topic of personal boundaries was discussed as a potential help or hinderance in relation to getting the most out of the programme and

enhancing resilience over the long-term. Many participants discussed challenges they faced when it came to managing and separating home and work lives, particularly with the added complexities of navigating this process during a pandemic when home working was the norm, and home schooling was required during working hours for those with children.

Anita advised it had *"always been an issue managing boundaries",* but the conversations we had around boundaries in large related to the unique complexities of performing at work, parenting, providing care for others (such as relatives) and living through the uncertainty and stress caused by the pandemic.

In the third interview, Rumi discussed how she was going to set boundaries to continue her resilience development journey:

> *"Once a month, instead of that group session, I'm going to still block out a period of time and say, this is my development time, whether it's resilience stuff or some other development. At least once a month, I'm giving myself two hours to focus on what I need and I'm just not going to be flexible on that. That's going to be a set thing and it's not going to move. It's actually critical if I'm going to work on my long-term resilience."*

In the final interview, Chris discussed how he was finding boundary setting a challenge, which was leading to less downtime – something that he attributed to negatively impacting his resilience levels:

"I know I work longer days now than ever before. And I don't have the commute, which is great. But I don't have the downtime either, you know, even walking to the train, sitting on the train, maybe reading 'The Economist', you know, that that's all been replaced by work. […] I'm struggling to figure out where I'll have time to focus on my resilience."

In the final interview, Sara reflected on how returning to the office had made her feel more resilient, and helped her to set boundaries between work and home life:

"I think the physical separation between office and home, in my case, it's had a very direct impact on, you know, maintaining the boundaries and my resilience levels. […] I'm doing two days in office, three days at home. Right. So, I know that the two or three days when I'm working from home, I can have extended hours. But the two days that I am going into the office, I'm not going to come home and work. So, I'll sit down with the kids and just maybe even watch some TV. But, I think that balance, I think if I was going to the office every day, which I was before lockdown, I suspect I would come back and switch a switch on my laptop again. But because I know that is only for two or three days, I give myself the luxury to shut down when I'm and I shut down in the office. This time not working and doing other things really helps me to step away from challenges and build my resilience reserves again. It also gives me time to think and reflect on what we've been learning in the programme."

It's interesting the theme of setting boundaries to firstly, have the time and energy to take part in the intervention and effectively, and secondly, to help build resilience reserves over the long term was prominent across all four interview time points.

Group factors

Group factor sub-theme	Focus			
	T1	T2	T3	T4
2.1 Colleague support		✓	✓	
2.2 Learning from others		✓	✓	✓

Table 11: Group factor sub-themes at four time points

Colleague support (theme 2.1)

Across the second and third time points, participants pointed to the power of support from colleagues when it came to implementing what they were learning and testing new behaviours to determine the impact on their resilience. This was a prominent theme at these time points as participants were in the midst of the group coaching sessions, whereby one of the objectives is to create the space and forum for those in the same programme (and on a similar development journey) to communicate openly and support each other, which is why this theme was prominent at time points two and three, and not time points one and four. As Anita discussed, team support helped her to deal with challenges at work throughout the programme:

> *"I like to talk. It helps me when I talk, and it helps me to work out how to deal with challenges. So, at work, I have people within my wider team, and even people who report into me, I can even talk to them about issues that I'm having."*

And as Matthew shared:

> *"The key to being resilience right now is the social network […] I'm very fortunate to have a lot of colleagues at my level who are open, you know, people want to help each other and stuff. I don't have a second thought and just calling any one of them and openly talk about my problems. I think that social network definitely helps because the key thing I've found on resilience is if you have that network to talk to, you can deal with problems effectively."*

Sara shared how a lack of team support has been challenging at times, negatively impacting her resilience during the intervention:

> *"I need that support network. Like when I started that new job, I didn't have that, and my resilience levels took a nosedive."*

Participants shared how the group coaching element of the intervention was an essential part of building their resilience:

> Sara: *"[…] the conversation that we had in a group coaching session. It's a really good start, right, and again, we talked about things, and for me what it meant simply was acknowledgement and validation that you're not alone. Everybody's experiencing the same and you kind of share what everybody is trying to do to cope."*

Gary: *"we're meeting a group of people coming out from the same training and it's*

creating as a kind of supporting group for ongoing support and to help us

become resilient right now."

Rumi: *"I think the group, the groups of as horrible as it sounds, is just it was good to*

know that you kind of are not in it alone. And kind of a lot of people in the

same type of space in the same organization are feeling the same thing,

because if no one else needed this, I'd be going, OK, what's wrong with me?"

Interestingly, John also shared how his team are his support system throughout the
intervention, particularly when in the same physical location:

"So, I think for me, my support network is predominantly my team, which I meet on

more than daily basis. And without that, I don't think I'll be effective or resilient.

Absolutely. For me, support is actually really important. [...]. But the interesting thing,

though, is that when we were in the office, subconsciously, you do leverage your

support around you more because you're in the office, you might say: have you got a

second? I want to talk to you about something back here."

Learning from others (theme 2.2)

From the second timepoint onwards, a key theme of learning from others emerged. As Charlotte stated in the first interview, listening to other perspectives had been transformational when building resilience throughout the intervention:

"Because when you are doing the things by yourself, you might only see the things from one side and but is actually can be multiple or hundred ways of perspective you can look at and so many different ways to tackle issues."

William shared similar sentiments:

"When we talk about the challenge that we have, we're kind of in similar situations. I think it's really constructive because people from different countries, different areas or different backgrounds share ideas and tips that could be relevant to all of us."

As did Marlon:

"I think that's the beauty of the group sessions as well, I think you can learn from other people about what's going on in that. Sometimes people have great tips that sometimes they know, sometimes you've got other ways that you work on your resilience."

And Charlotte:

"And like I said, those were more helpful just to understand and hear other people's perspective on the same thing. I thought that was helpful, hearing other tools and tactics that people use that maybe didn't come through in. Some of the other people apply it because sometimes you go, oh, that's that might work for me just to kind of get other ideas. So, I thought that's what was helpful for the group sessions."

Interestingly, Marlon also shared an experience in the group coaching session, which involved suddenly being aware of another perspective, and taking this a step further and being more empathetic to members on his team who report into him, potentially helping his team members to become more resilient in the future:

"One of the things the first group coaching sessions [X] started talking about resilience, all the men was saying all resilience is all about, you know, what I'm going to do between now and 5pm, or whatever else. And her examples were not work related. They were 'I've got to think about breakfast. I've got to get the kids ready for school'. And that dimension hadn't really occurred to me before. I know, and because I'm in the male category, I don't have to worry about all the other things that go on around me because they will be handled by other people. Right. But if you are that person… and actually it made me feel quite at first slightly upset, that. For me, I know when the day ends, so I get up, I start the day and then it ends at that point, everything else happens after that doesn't just need to be scheduled or whatever. It could just be done, but for other people, their day doesn't end. It's just a break between a different job of suddenly having to look after kids and food and all those kind of things. And what do you think about your own life? Well, you know, we're all

stressed, and you think. But imagine if that day never ended. Imagine if that stress never went away, how awful that would be for somebody's life. I take that with me now when I'm working with my team, I encourage them to talk about these challenges and I try to support them."

Overall, participants reported openness to learning about experiences and strategies that others use to build resilience reserves, both within the group coaching context, and with peers outside of the intervention programme. Most participants mentioned the word "*perspective*" when detailing why learning from others was important when building resilience throughout the intervention, both regarding seeing the world and challenges through the eyes of others, and in broadening their own perspective with new strategies and behaviours that can build resilience.

This theme was prominent at all time points during and post intervention, as participants started the process of learning from others to enhance resilience during the intervention (not pre-intervention).

Leadership factors

Leadership factor sub-theme	Focus			
	T1	T2	T3	T4
3.1 Manager attitude and behaviours	✓	✓	✓	✓
3.2 Manager support		✓	✓	✓

Table 12: Leadership factor sub-themes at four time points

Manager attitudes and behaviours (theme 3.1)

Across all time points participants pointed to the impact of their manager's attitudes and behaviours on their ability to put strategies in place to build resilience, which was a key intervention outcome. In the second interview, Sara described how her manager role models behaviour that helps her to prioritise her own resilience in challenging situations. She described an email her functional head had sent to the whole division detailing personal strategies he uses to bolster resilience reserves, and stated she felt that her manager was supporting her resilience development journey by sending this email to the wider team:

> *"I think that to me is really, really powerful that, your senior management essentially, is expressing how they are coping, and again, it gives you the permission to do the same, not that you don't have the permission, but it just kind of makes it easier. [...] I see the support from the management is really key to building the resilience results. And so, if I didn't have that, I think I would probably not be successful in applying the tools and techniques. But I have the permission and the support from the management team to do whatever I need to do to build mine and the team's resilience. So, from that perspective, I think it's a good place to be."*

Alternatively, Anita expressed some cynicism as to the intentions of leaders sharing personal experiences to help their teams focus on resilience, questioning whether this method is a genuine attempt to role model healthy behaviours, especially when alternative behaviours, such as stressful working conditions don't demonstrate the same focus on team resilience:

> *"I'm from the senior team, so we will have before we go into a town hall or to speak, we will get a briefing about bringing more the human element into the talk, more the*

family element. And one of the calls were like ridiculous. It was like too fluffy. It feels

sometimes it's a showcase. Yeah, we're going to a townhall and let's all show off how

great leaders we are and maybe it's not the case, but this is how sometimes I see it."

During interview four Chris discussed how manager style has the opposite affect and negatively impacts resilience and embedding of the intervention programme:

"We tend to work in a sort of permanent fire drill. You know, it's how we operate

and. I can't put my finger on why that is it because I've only been in this part of the

bank for a year. But everything is 'we got to have this today, and 'I've got to have it

today because my boss needs it today to give it to his boss today', and so everything

just gets compacted into today. So that makes that makes things hard to plan and to

think through and organise and to delegate. When I'm trying to implement what

we're learning in our coaching in this environment, it feels impossible."

This insight not only relates to leadership behaviours and attitudes but is likely a reflection of the organisational culture and possibly job design factors too, highlighting the connections between many of the IGLOO factors.

Manager support (theme 3.2)

Previous research has identified manager support as key element in supporting and facilitating resilience in a working environment (Noe, Noe & Bachhuber, 1990), which is a

finding replicated in this study from the second time point of interviews onwards. As explained by Matthew:

> *"My manager supported me [joining this programme] and said, yes, I think you're doing the right things because that also helps your resilience, the positive affirmation from your managers that you are on the right path, and they do believe in you can help you to focus on building resilience."*

Anita also described a time during the intervention where her manager realised she was at the point of burnout and offered to help her take some time out to build her resilience reserves:

> *"It could be this couple of weeks back. I just totally I can't do this anymore. It's becoming too much. I can't handle it. And I was given lots of options. My manager asked, 'do you want to take a day off?' He was like, 'give me more work, delegate to me. I can handle it and take the pressure off' It's support like this that helps me to take time out to rest and work on doing some of the resilience things we've been talking about."*

As Charlotte shared, however, her manager wasn't so supportive of the resilience programme, which hindered her application of practical resilience tools and techniques:

> *"My current manager's very busy, so I don't think he's got time for this kind of programme, which makes it harder to put my resilience at the top of my to-do list*

and to put into practice some of the strategies that we've covered in the coaching

sessions."

William also shared a similar experience in his last interview:

"I haven't necessarily had that kind of manager support because my manager doesn't

even know what the programme is about. I don't think he's approachable at all to

think about my resilience, [...] I can't fully open up to my line manager in terms of

some of things that I want to do to address my own resilience immediately."

Overall, it was clear that manager support has the potential to either help or block the

practical application of resilience strategies that were taught and explored as part of the

intervention programme.

It is likely manager support became a key theme during and post-intervention as

participants learnt of the value of their support as a manager for their teams to help their

team members develop resilience. This is likely to have made participants question the level

of support they receive from their managers in developing resilience, which they may not

have considered before.

Organisational factors

Organisational factor sub-theme	Focus			
	T1	T2	T3	T4
4.1 Organisational change and uncertainty	✓	✓	✓	✓
4.2 Job design	✓	✓	✓	✓

Table 13: Organisational factor sub-themes at four time points

Organisational change and uncertainty (theme 4.1)

This was a prominent theme across all interview timepoints, whereby participants shared their experiences of navigating extreme organisational change whilst taking part in this intervention. This change was in part due to organisational restructures, responses to the Covid-19 pandemic and shifts within the senior leadership team. It's challenging to divorce organisational responses to the pandemic and organisational change when determining the root cause the effects on implementation of the programme, which again points to how intertwined these factors that impact resilience are. It's important to note, however, that although the interviews took place during a pandemic, many participants reported that their working lives had for some years been uncertain and in flux, due to restructuring throughout the business.

Right at the start of the programme, in the first interview, John described how he thought change might impact the extent to which he'd be able to commit to the programme and take steps to improve his resilience:

> *"I think for me, one of the things I think would impact how effective this coaching will be for me is uncertainty around the new ways of working that we are now trying to embed within the function."*

As Matthew explained during the second interview, uncertainty and change can make it difficult to both focus on personal resilience, and put new resilience practices into action:

"I think I mentioned this last time, the environments are changing quite rapidly. What you see today might not be the case tomorrow, especially for the *organisation X* we're working for right now. The restructuring has been going on everywhere, and you don't really know where the future is going to look like. So, with that uncertainty exists, and resilience can go down. I think this has been the challenge in finding the time and energy to work on my personal resilience."

During the third interview, Marlon discussed how extreme change can create "pointless" work, and how that impacted his resilience. He discussed a regular occurrence during times of organisational change whereby team members work all weekend to produce presentations and strategy documents for Monday morning:

"They need all this kind of stuff so that they can explain to their bosses what's going on. And that's usually a kind of a bit of a panic thing because I've got a slot with X at 9.30 tomorrow morning, I need something to be able to present. Now, at the end of the day, they don't need the materials. It's almost their comfort blanket. But the reality is, when you then go to those meetings, they just talk for 30 minutes or 45 minutes, there is no need to show a whole deck. So, the thing you actually worked on all weekend was a complete waste of time...It just seems a little bit a little bit pointless, and it's when I feel at my lowest ebb when it comes to my resilience."

This idea of perceived pointless work affecting resilience has been addressed in previous research (Branicki et al., 2019), and in this research was a point that was discussed in relation to change and resilience by many participants.

In the final interview, Rumi shared how experiencing extreme change impacted her application of learnings:

> *"It's hard to stay positive and to look at it from another perspective when you're in the middle of so much change"*

William shared in the third interview that organisational change and uncertainty can help to provide a useful context to test strategies learned throughout the intervention programme, but this was the only instance of change and uncertainty being described as positively impacting resilience and programme implementation:

> *"How we deal with uncertainties, how we deal with unsafe environments and see situations impacts resilience. So, there are a lot of challenges coming up. Right. And then I can keep practicing. So that's why I'm saying that all through the program my resilience will keep improving. And I would say this is good time to have this kind of training as well. Whenever I come across issues, I can quickly apply to what I've learned in the training programme."*

Job design (theme 4.2)

At all four time points, participants shared stories and experiences of how job design impacted their ability to put what they were learning into practice, and their resilience levels overall. Key elements of this theme that were discussed included workload, pressure to achieve more with less resources, working practices (such as remote working) and navigating a complicated matrix structure in the organisation.

In the second interview, Chris explained how his workload was preventing him from putting what he was learning into practice:

> *"You need a chance to practice it, if you're just sort of full on, it's like right I'm doing this now and I can't stop, then you don't have that time to take those moves, strategies and techniques and try them out and course correct to reflect on it. You sort of cut all that stuff out. It's very much like I'm in a fight mode now, I've got to deal with that rather than, you know, I've got six months and, I've got time to sort of think about how I'm going to use this stuff and build it in and try it and reflect on it. So, I think it is just for me timing right now with everything that's going on, frankly I don't know how I'm going to make the changes I need to improve my resilience."*

Interestingly, Chris touches on his inability to reflect and deploy the broaden and build theory (Fredrickson, 2009), due to the way his role is designed, and the workload associated with his role. John also shared a similar experience:

"Are there ways I could better use my resilience toolkit? Absolutely. But having said that, trying to allocate time to really understand what is possible is a challenge because everyone's diaries are absolutely ridiculous. Like mine, my diary now, I've been on calls since 7 o'clock this morning probably until 7pm tonight. That's Monday to Friday right. That's 12, 13 hours. I need to account for e-mails too. So, my headspace in terms of thinking how I could do things better, what my own mental well-being is like isn't there. I struggle to really focus on how I can think about my resilience. I would love to have more time."

Throughout the interviews, the theme of job design was one of the most significant factors that negatively impacted how participants deployed resilience-enhancing strategies. All participants identified this hindering theme, and it was prominent at all time points. There wasn't one example provided whereby the current job design as experienced by participants positively impacted resilience or implementation of behaviour change associated with participation in the programme.

Outside factors

Outside factor sub-theme	Focus			
	T1	T2	T3	T4
5.1 Family and friend support	✓	✓	✓	✓
5.2 Global cultural factors		✓	✓	
5.3 Covid-19 pandemic	✓	✓	✓	

Table 14: Outside factor sub-themes at four time points

Family and friend support (theme 5.1)

At each stage of the interview process, participants shared examples of how support from family and friends helped them to develop their resilience throughout the programme. This aligns with the focus on support factors when building resilience as pointed out in a framework developed by Pangallo et al. (2015) and explored in detail by Hartmann et al., (2020).

In the second interview, Chris explained how the support of his wife helps him to challenge his perspective and deal with challenges throughout the intervention:

> *"I'm really fortunate to have a my, my wife is a great supporter, a great listener. She's very sort of balanced, you know, looks at all sides of different arguments so that there's somebody there that that gives me a different perspective. […] But I still find myself, you know, it's easy to get into the tunnel and sort of focus on the problem and not take a step back and deal with it. And I think it's that those points that I find my resilience dropping, and this is when I really rely on that support."*

Anita described a similar experience when she was asked about the factors that were helping her apply practical resilience strategies:

> *"I have people around me who I can go to help me deal with challenges. And even in my personal life, there is someone for each and every topic. So, if I need help, my husband is there. My mum is an excellent listener and she's an excellent adviser[…], I mean, even my kids, they're becoming part of this journey, and this 100% helps me to focus on building my resilience."*

John however, shared an alternative point of view in his third interview. Rather than drawing on support from his family when facing work challenges, he relies on support from his team:

> *"While support is available on a personal level, I don't have it because sometimes I feel like, when I wanted to speak to my wife, for example, it just creates additional sort of like stress. So, I don't I just manage it myself and I internally manage, like I've got this got this massive challenge that I've got to sort out or issues, I'm not really quite sure how I'm going to find a solution for it, but I know I've got a plan. I just need a bit of time to step back, think of how I'm going to approach things. And I always find the solution. […] I leverage less of my personal support network because I'd rather use my colleagues because I use that support to help me navigate ways to find solutions."*

This points to the conclusion that support is indeed a critical element of building resilience (Pangallo et al., 2015), and it should perhaps be up to the individual where they draw support from, depending on the situation and preferences.

Global cultural factors (theme 5.2)

At the second and third time points, participants discussed various cultural considerations that impacted their implantation of strategies they were learning about throughout the programme, as well as legislative and regulatory factors, and geopolitical considerations.

These examples were all highly personal and contextual, but when grouped together as a theme, it became clear of the impact they can make on building resilience in an intervention setting.

Anita described a cultural example that impacts her resilience and programme implementation:

> *"I'm thinking that I'm still hungry being fasting, and that can affect how resilient I feel when these issues at work occur."*

Charlotte explained how regulatory pressures in her region impact her ability to focus on her resilience:

> *"I feel a lot of stress […], because of some of the pressures from regulator and this has been dragging my resilience levels down."*

As Matthew shared:

> *"Another factor in building resilience right now is that we've got these even bigger geopolitical challenges that we're thinking about outside of our day-to-day jobs as well."*

Due to the contextual and unpredictable nature of global and political factors that can occur, it is likely that this factor was a key theme at two time points simply because of the

unpredictable nature of when these events occur. It is unlikely this is an exact pattern that would be replicated in other studies, but future research could determine whether this is the case.

Covid-19 pandemic (theme 5.3)

The interviews were conducted between March and August 2021, when most of the world was navigating working and living in a very changeable and uncertain environment. Perhaps unsurprisingly given the impact the Covid-19 has had on resilience (Galanti et al., 2021; Sominsky et al., 2020), Covid-19 was a prominent theme across the first three interviews. Experiences discussed by participants regarding the impact of the pandemic on their implementation of resilience tools and strategies ranged from managing isolation from team members, worry and fear for personal safety and the safety of others, and responding to new challenges without a past blueprint to follow.

In the second interview, Sara detailed why the pandemic was impacting her resilience and ability to commit to putting what she was learning into practice. When she was asked how her resilience levels have changed throughout the programme, Sara responded:

> *"I think that what's different this time in terms of why I feel my resilience level is*
>
> *medium and not high, I tend to have high resilience levels because at least at work,*
>
> *I'm a bit of a crazy person at work in the sense that I really, you know, spend a lot of*
>
> *time and effort and I get a huge sense of pride and self-worth through the work that I*
>
> *do. So, I think I would normally say my resilience levels are very high. […] I think it's*

medium because it seems like a really long period of time to have that challenge

hanging over you. You kind of come across a challenge, you deal with it for two

months, three months, you come out of it and then that builds your resilience. In this

case, it's just it doesn't seem like it's going to end anytime soon. And so, I feel that

that sustained high level of, uh, you know, challenge, it's kind of beginning to erode

more permanent resilience levels. So, six months into it, I would have said, you know,

my resilience level is high. But I think with a year plus into this situation, I feel like it's

beginning to wear me down on my resilience levels."

John shared how isolation from colleagues whilst working from home (due to the pandemic) eroded his support system, impacting resilience:

"That support network is different because you're in isolation, until you set up this

individual, one to one times, otherwise, you know, you're having to internalise that

and handle issues all yourself […] which leads to me wondering whether I can make

changes to build my resilience, or whether I can actually tackle these issues."

However, as Matthew explained, the pandemic has also helped to improve resilience in some ways, and has also created an environment to test resilience strategies:

"Even though were in a state of extreme stress in my country right now, deaths are

high, and we can't see our family, it's given me a very real situation to test my

resilience and to try out some of the exercises we've talked about. I'm happy for the

support that I get from my managers and everyone in the organization generally for

the resilience and the encouragement and the focus on life balance and stuff, I'm

actually seeing even if there is an adverse situations from external factors because of

pandemic."

A sentiment supported by Anita in the second interview:

Now, I think it's it helped us all do to test our resilience. So, I don't think any of us

really thought of it earlier unless we were put in this situation and I think all of us are

testing how resilient we are and how much we can push and push, and we've

reached a state that we never knew we had in us. So, I think the pandemic situation

actually helps to understand ourselves more, and in the long run, that's got to help us

build resilience and put what we're learning into practice."

The impact on resilience during the pandemic described across interviews illustrates the
extreme effects situational factors can have on both resilience, and outcomes of a resilience
intervention.

4.5.2 Overarching factors

Overarching factor sub-theme	Focus			
	T1	T2	T3	T4
6.1 Exposure to challenges		✓	✓	✓
6.2 Programme elements and design			✓	✓

Table 15: Overarching factor sub-themes at four time points

Exposure to challenges (theme 6.1)

As detailed across in data gathered across all five of the IGLOO factors, participants

discussed how exposure to challenges helped or hindered the development of resilience.

Interestingly, the examples of challenges provided during interviews varied greatly, from

workplace, organisational, and leadership factors, to personal factors outside of work.

Exposure to challenges can be regarded as a positive experience when focusing firstly on

implementing resilience coaching strategies, and secondly when developing resilience in

general. The idea that challenge and adversity is a critical component in building resilience

has been reported in previous research (Seery, 2011; Vanhove et al., 2015;). As explained by

Matthew in the second interview:

"So, I think working with these issues means it's a good opportunity to test out how I

can boost resilience. I mean, if I was doing this program around the holiday season of

November, December, maybe there are not many situations for me to practice

resilience, but I think now I have enough for the next four weeks to come to see how

many surprises, unpleasant surprises I encounter and how can I overcome them."

Charlotte however had an alternative perspective at the third interview:

"The issues we're dealing with are just too much. I feel overwhelmed and exhausted.

I can't even think about my resilience, or what I can do to be more resilient, I'm just

trying to get through it."

These examples, along with many others expressed in the interviews provides an insight

into the role of pressure, challenge, or adversity in building resilience, which can be of

benefit to a point. If these factors feature too heavily in the situation, it can become overwhelming, potentially depleting resilience reserves.

This was a prominent theme at during and post-intervention as participants learnt whist taking part in the training programme, they required challenges to develop resilience skills.

Programme elements and design (theme 6.2)

At the final two time points, participants discussed elements of programme design that had supported or hindered the application of knowledge, skills and behaviours that help to develop resilience. This became a theme at these time points as participants started to reflect at the end of the intervention, and post-intervention, on what had supported or hindered their resilience development.

The on-demand learning was an element that yielded mixed reviews. Anita shared "*mainly the discussions and the (on-demand) videos helped the most*" when it came to implementation of resilience strategies, but Chris on the other hand found the self-directed learning challenging, stating *"I didn't complete the workbook, and that's just been a result of everything else that's going on."* Some participants stated they would keep the on-demand learning element if they were designing the programme again, mainly because of the convenience, others stated they would prefer face-to-face delivery, even if it meant travel was involved.

The one-to-one coaching was a design element everyone agreed was useful, as Rumi stated *"the one-to-one sessions were the most useful part of the programme for me. It was having that time to work through my specific challenges with a coach, and work out strategies that help me, in my particular situation."* The group coaching element was the part of the intervention that seemed to surprise participants the most, particularly those that hadn't taken part in group coaching before. Sara commented*: "surprisingly, probably the most valuable part of the resilience coaching and training for me has been the group coaching sessions"*, which was echoed by Charlotte who identified the *"community"*, *"support"* and *"sharing of challenges and solutions"* as they key factors that made the group coaching a critical element to support implementation.

Participants noted explicit programme sponsorship, whereby senior leaders attend group coaching sessions, would in words of John *"help to show that resilience is important for us in this organisation, and it would show that the leadership team are taking our wellbeing seriously".*

4.5.3 Additional considerations

Changes over time

All participants reported changes to their resilience over time, and some looked back and rated their resilience higher or lower in hindsight. This illustrates the changeable and dynamic nature of both resilience as a construct, and the process of developing resilience, and changes in perspective in terms of how we regard our own resilience – at times it can

appear higher or lower in the moment, or at a later date. Table 9 indicates the time points

at which each theme was a focus throughout the intervention and research process.

John explained in the final interview how his resilience levels changed throughout the

intervention:

"At times I've fallen back into the way that I've always defaulted in terms of how I've

handled hard situations, and my resilience is obviously going to go in peaks and

troughs. I don't want to say that I've gone right down to the bottom, that I have

massive peaks and troughs, but naturally, my resilience drops a little bit as I'm trying

to understand these dynamics around me and what it means and how I navigate it,

and as I test out new ways of tackling challenges that also help me to feel resilient."

4.6.8 Attrition data

One of the key areas of findings in a systematic literature review (Roberts, Yarker & Lewis, in

prep) was the lack of attrition data and insight reported in studies, which can negatively

affect the quality of research, and result in critical findings being overlooked. In this study,

attrition data was collected and analysed, up to the point of the second interview when two

participants dropped out of the intervention programme.

It's not clear why participants left the programme, they didn't explicitly explain why

(although were invited to do so). Data collected from interviews at time point one and two

may provide clues, although there could be entirely different reasons. As Adam reflected in

the first interview, he imagined his commitment to the programme may be hindered by his workload and virtual meeting fatigue:

> *"The other thing which will have an influence on it would be what else is going on at work. So, if I'm particularly busy, I might be distracted, depending on what's going on, because that's always difficult. I assume that I'll be using my work laptop, which is dangerous, you saw me just on this recording, you saw me click on something just then because three things popped up for me to do, reminding me I've got to be somewhere else in a minute. So that's always a danger. Work will get in the way of my ability to fully commit to anything just because it's busy at the moment."*

> *"I've taken on more so at the moment that's what's going to distract me from being able to fully commit and probably get the best out of this. I also think I think that's fair. We're going to do this over Microsoft Teams as well, aren't we? So, there is a little bit of that that resonates with me, which is, I'm kind of getting Zoom fatigue at the moment. So, more meeting through a screen is probably not my ideal way of spending my evenings."*

> *"I'm doing two jobs, what they would normally employ two people to do."*

Willow also shared similar insights in the first interview when she was asked what could hinder intervention implementation:

"I think workload would definitely come in as a hindrance because we do have a lot of deadlines we have to meet and there are so many projects going on. [...]. So, I guess if there are any conflicting tasks, we have to take care of then maybe we don't necessarily pay enough attention to the program. So that can potentially harm the program's progress."

Willow didn't commit to the on-demand training part of the programme, as explained in this exchange:

Researcher: *"Have you managed to put any of the program into practice, I mean, the strategies that we've talked about or any of the tools?"*

Willow: *"Nothing in particular."*

Researcher: *"What has stopped you from being able to do that from putting what you're learning into practice?"*

Willow: *"I guess because the everyday life jobs are just too much. So, you don't always have the time to just stop for a second and think and use the things you've learned and apply them. You just don't necessarily have that second or you just don't realise that you need that second. So, I think that's what's stopping me from applying the knowledge were techniques that I learned."*

154

Willow also explained she hadn't told her manager she was taking part in the programme, so she didn't have manager support.

Without explicit data to detail why participants left the intervention, conclusions on this cannot be drawn. It is however interesting to examine the available data, which includes details of excessive workload or a choice not to focus on developing resilience over attending to work, job design, and lack of manager support.

4.6 Discussion

This aim of this study was to understand factors that impact both the development of resilience during and after an intervention, and those that impact the application of resilience strategies for leaders over time.

The data analysis process identified themes under each of the five IGLOO factors (Nielsen et al., 2018) that individually impact application of resilience-enhancing strategies, and resilience overall for leaders who took part in the coaching and training intervention. In addition, higher order themes of individual, group, leader, organisation, and outside factors all interact with each other and work as an ecosystem, together influencing the development of resilience and intervention implementation. This system of factors was all impacted by the exposure to challenges, whereby a sufficient amount of adversity was required to practice new skills and test resilience strategies, and specific programme elements and design, which impacted specific outcomes for individuals.

4.6.1 Change in factors over time

As there is little longitudinal or qualitative previous research data to draw from (Robertson et al., 2015), a comparison of the factors that impacted resilience development and intervention implementation during this research study cannot be compared to previous research. This does however pose an opportunity for future research to build on the findings of this study, which in the future will provide an insight into the dynamic nature of resilience

(Pangallo et al., 2015) as comparisons can be drawn as to how resilience is developed, and interventions are implemented in different environments in the future.

During the pre-intervention interviews in this study (the first time point), the key themes that emerged when participants were asked what could help or hinder the implementation of the intervention and the development overall included: managing personal boundaries, supportive or unsupportive manager attitude and behaviours, the extreme amount of organisational change and uncertainty many participants were experiencing, job design (namely workload), support from family and friends, and Covid-19 pandemic, which was a prominent theme throughout the research which took place during various pandemic restrictions and lockdowns.

Interviews at the second and third time points took place during the intervention, at which point participants had been navigating extreme organisational change (including restructures and the threat of redundancy) and the effects of working through a pandemic for some time. All factors that were identified pre-intervention continued as key themes. There were additional factors that were highlighted at the second and third time points, however, including motivation and commitment, colleague support, learning from others, manager support, and global cultural factors. The only factor that changed over the two time points during the intervention was resilience self-efficacy and resourcefulness, which could indicate the need for self-belief later in an intervention, when the focus shifts more so towards implementation of resilience strategies and finding solutions to navigate challenges, rather than learning about what resilience is as a concept.

Overarching factors also emerged at this point, which means they were not anticipated pre-intervention, but emerged as important influences during the intervention. Exposure to challenges became a prominent theme at the second time point and was consistent at all following time points. Without challenges or adversity, participants wouldn't have the opportunity to practice skills and strategies explored as part of the intervention to build resilience, so this theme is an overarching factor that affects the whole IGLOO framework. It is likely participants identified this theme during the intervention as they started to appreciate navigating challenges in a practical rather than theoretical manner was essential as they practiced skills and strategies learned throughout the intervention.

Specific programme design elements also became an important theme during the intervention, whereby participants discussed specific intervention design components that helped them to build their resilience and implement what they were learning by taking part in the intervention. At this stage in the research, participants were building a deeper understanding of how the programme was designed, and the elements that supported or hindered their application of resilience-enhancing strategies. It became clear that programme design elements were an overarching factor that interacted with all IGLOO levels.

At the final fourth post-intervention interview stage, colleague support became less of a focus, which was likely due to the fact group coaching sessions had concluded by time point three. Reference to global cultural factors and Covid-19 factors were also not reported at the final stage of interviews, which could point to the contextual global changes, whereby these two factors become less of a focus or potentially, stressor in the workplace. This

points to the dynamic nature of resilience, shaped by individual resources and context, which aligns with findings proposed by Pangallo et al. (2015) whereby contextual factors shape resilience development along with personal factors.

Interestingly, motivation and commitment were themes still prominent at the final time point, as was resilience self-efficacy and resourcefulness, which indicates these are still important factors in resilience-development post-intervention. Learning from others was still a critical factor discussed post-intervention, although this learning may not originate from others in the group coaching sessions as the intervention had concluded, meaning future intervention design may benefit from factoring in ways participants can share resilience strategies and stories with others post-intervention (and not necessarily only those that were participants in the intervention).

4.6.2 Individual factors

Across all four time points, individual factors impacted the extent to which participants were supported or hindered in their application of resilience-enhancing strategies. At all time points from pre- to post-intervention, personal boundaries were a significant factor in how likely participants were to implement strategies they were learning as part of the intervention programme. Participants shared examples of structured boundaries supporting application of strategies, whereby time is carved out to intentionally practice resilience strategies and reflect on progress, versus examples of workload taking priority and the inability to allocate time to developing resilience. This aligns with the theme of job crafting, explained as alterations employees make to their working patterns and processes to change

the boundaries of their work, whether that be in terms of relational, cognitive or task related boundaries (Wrzesniewski & Dutton, 2001). Job crafting emerged as a key theme in a systematic review and meta-analysis that explores factors relating to wellbeing and performance (Nielsen et al., 2017), which along with the emergence of boundaries as a key theme in this present study, may inform future research exploring the impact of job crafting and personal boundaries on the development of resilience during an intervention.

Motivation and commitment to the programme were key factors in determining how likely participants were to implement skills and strategies they were learning, and this was evident from the second time point (at the start of the intervention) through to post-intervention. Belief in ability to develop resilience and a demonstration of resourcefulness to find solutions to overcome adversity were critical factors discussed by participants at the end of the intervention, and post-intervention. This is consistent with findings from a systematic review conducted et Pangallo et al. (2015), which found personal commitment and self-efficacy to be key features across resilience measurement tools, which suggests not only are these factors that can be measured to determine the presence of resilience, but these factors also influence the development of resilience.

4.6.3 Group factors

Previous systematic reviews have recommended research exploring resilience intervention effectiveness focus on the relationship between support and the development of resilience (Pangallo et al., 2015; Robertson et al., 2015), which has been addressed in this present study. At a group level, colleague support was identified as a factor that supported the

development of resilience throughout the intervention, from the start to end of the intervention, which isn't surprising as support is one of the most studied wellbeing and performance enabling factors within the group level of the IGLOO framework (Nielsen et al., 2017) and a key factor identified in a systematic review detailing components of resilience included in resilience measurements (Pangallo et al., 2015) . Some participants referenced support from peers who weren't part of the intervention, team members who reported into them, and others discussed the role of support from their peers who were also participants in the intervention, which indicates the range of support options that could be incorporated into intervention design in the future. Colleague support wasn't a factor discussed in interviews post-intervention, potentially due to the fact group coaching sessions had ended, but participants mentioned they would have benefitted from a continuation of colleague support post-intervention.

Learning from others was a key factor discussed by participants, which supported both the process of learning new resilience-based strategies, and deploying and testing new ways of managing, nurturing, and maintaining resilience. This was important at the point the intervention started, through to the post-intervention interview. Previous research hasn't explored the concept of social learning in a resilience context, although longitudinal research has presented optimism - a component of resilience (Pangallo et al, 2015) - and happiness as a collective phenomenon (Fowler & Christakis, 2008), whereby the construct is influenced by those an individual connects with and learns from. This provides an opportunity to explore how learning from others influences the development of resilience and intervention implementation, perhaps within the social learning theory framework

(Bandura & Walters, 1977) which explains how people learn from each other by observation, imitation, and role-modelling.

4.6.4 Leadership factors

At all four time points participants described how their relationship with their manager, and in particular, attitudes and behaviours displayed by their managers could support or hinder the development of resilience as an outcome of the resilience intervention, which has been replicated in previous research which over a year found MBA students exhibited higher resilience when they reported their leader as a positive factor in dealing with challenges (Harland, Harrison, Jones & Reiter-Palmon, 2005). As presented in a review of leadership research in the workplace, leaders have the potential to impact wellbeing and performance for those reporting into them, particularly within the context of Leader-Member Exchange (LMX) theory (Avolio, Walumbwa & Weber, 2009).

As part of this theme, participants discussed managers role-modelling behaviours that support resilience, explicit encouragement of programme participation (and focus on resilience), and on the flip side, the opposite to the behaviours and the associated negative impact, indicating how manager attitudes and behaviours could be either a protective or risk factor when developing resilience, depending on the context and specific behaviours and attitudes displayed. These findings align with the IGLOO framework proposed by Nielsen et al., 2018), whereby line manager's attitudes, behaviours and support are detailed as factors that can impact the success of return-to-work processes for employees who experience mental health disorders.

Manager support was also described as playing a critical role in supporting or blocking both the practical application of strategies and the development of resilience, although this became a factor at the second time point onwards and wasn't identified as a contributing factor pre-intervention. Participants described the positive outcomes of support in the form of guidance and advice, and perceived psychological safety (created by managers). Again, examples of opposing behaviours demonstrated how managers can negatively impact the development of resilience for those taking part in an intervention. Interestingly, in a systematic review and meta-analysis exploring factors that impact wellbeing and performance at work (Nielsen et al., 2017), manager support was an area that garnered little attention in research literature. This of course does not mean that manager support is not an important factor in the development of resilience, or in fact wellbeing overall, rather there has been little research conducted in this area, which could pose an opportunity for future research to focus on the relationship between manager support and the development of resilience in an intervention context.

4.6.5 Organisational factors

As discussed in previous systematic review and meta-analysis research, the focus on the exploration of organisational factors to support wellbeing and performance in research often outweighs exploration of alternative resource factors within individual, group, or leadership levels within the IGLOO framework (Nielsen et al., 2017).

Organisational change and uncertainty, and job design were two themes that emerged at all four time points during interviews. As discussed during interviews, those taking part in the programme were experiencing extreme organisational change, and their roles were uncertain due to redundancies being made across the organisation, factors which most likely lead to change and uncertainty impacting resilience and application of learnings for participants. Resilience has been found to support positive adaptation during organisational change (IJntema et al., 2021), and previous research details the process of resilience interventions delivery as part of a study to support the development of resilience in leaders to deal with organisational change (Sherlock-Storey et al., 2013). Less is known from past research however, about how organisational change impacts resilience reserves. Results from the present study demonstrate extreme organisational change may negatively impact the development of resilience, and there is an opportunity for future research to explore this further to understand not only how resilience can help to buffer against the negative effects of change, but also how organisational change can hinder or support the development of resilience for leaders.

Job design was also discussed as a hinderance to both resilience and programme implementation at all time points, which similarly is a theme identified in previous qualitative research which identified the negative impact of poor job design on health and wellbeing interventions (Greasley & Edwards, 2015). Although this research doesn't specifically apply to resilience interventions, parallels can be drawn as resilience interventions are often delivered as part of health and wellbeing programmes. Participants in the present study shared insights into heavy workloads and continual pressure to deliver more with less time and team resources as budget and headcount cuts were being made.

Job design was predominately described as negatively impacting programme

implementation and resilience, although one participant reflected challenges that come

with a heavy workload, restructures and change provide an environment to practice

resilience-enhancing strategies. The idea of pointless work both taking time from positive

endeavours such as focusing on resilience, and directly reducing resilience was discussed,

and is a theme that has emerged in previous resilience research (Branicki et al., 2019),

leading to the conclusion this could be an interesting area to explore in future research as it

is a reoccurring theme across different organisational contexts.

4.6.6 Outside factors

Outside factors detailed in this research very much focus on contextual and situational

factors, which have been identified as resilience enablers or blockers in previous research

(Förster & Duchek, 2017; Pangallo, et al., 2015; Windle et al., 2011). Support provided by

family and friends was a consistent theme discussed as a factor that promotes both

resilience and the application of resilience strategies across all time points, which is

consistent with previous research findings (Förster, & Duchek, 2017; Pangallo et al., 2015).

Participants described this kind of support as advice, guidance and inspiration when working

on the application of resilience strategies, and empathy and concern when facing adversity.

Previous research has addressed the need to understand the relationship of support to the

development of resilience as part of workplace interventions (Förster, & Duchek, 2017;

Pangallo et al., 2015), but as yet this hasn't been addressed. In this present study, not only

do results point to support being a key factor in the development of resilience and

intervention implantation, but the role different kinds of support – such as team, manager

and personal relationship – on the development of resilience throughout an intervention are discussed.

The Covid-19 pandemic was a key theme explored in the first three interviews. Research has shown resilience strategies to buffer against negative outcomes associated with navigating a pandemic (Verdolini et al., 2021), but it appears working within the context of navigating a pandemic can hinder the development of resilience and the application of strategies explored in an intervention. This theme became less of a focus post-intervention, possibly because working within the context of a pandemic had become the norm and less of a challenge. As navigating a pandemic is a relatively recent phenomenon for most of the working population, the after-effects of living and working during a pandemic on resilience for leaders could be an interesting area of research.

Remote working also supported resilience development for some participants, who detailed how less commuting allowed for more downtime, providing time to focus on the programme and personal resilience. Other participants however, described how working from home meant more time working, and less time focusing on other factors, such as personal development and time with family members, resulting in less focus on the resilience programme. Again, as yet there is not a body of research to explain how remote working impacts the development of resilience during an intervention, but this is likely to become more of a focus for employees, organisations, researchers and practitioners as many organisations consider enhancing or extending remote working policies.

4.6.7 Overarching factors

Consistent with previous research, exposure to challenges and adversity was reported as a critical element in the development of resilience (Seery, 2011; Vanhove et al., 2015), and this research extends that finding to conclude exposure to challenges and adversity is a key component in the application of strategies taught to participants throughout an intervention, potentially providing a context in which to apply the broaden and build resilience development theory (Fredrickson, 2009). It's likely, however, that there's a critical sweet-spot when it comes to exposure to adversity supporting intervention outcomes, whereby sufficient challenge provides the conditions to test approaches and tactics, and reflect on resilience-building progress, whereas too much adversity can tip the balance towards overwhelm and burnout and away from a healthy challenge, at which point, adversity becomes a debilitating factor in the development of resilience.

The intervention in this programme consisted of three design elements: on-demand training, group coaching and one-to-one coaching. Each design category was met with positive feedback from participants, although the effects of training element was the most debated. Some participants appreciated the on-demand design whereby they could be flexible about where and when they took part in this activity, whereas others would have preferred live training interaction as they found allocating time for an on-demand programme challenging. Others found the virtual training design to be most useful in supporting application of skills and strategies (although there was no other option due to Covid-19 restrictions), whereas some participants reflected their learning would have been greater if they had been in a face-to-face setting (which could be challenging with increased travel budget cuts). There isn't any data to draw from in previous research comparing the

application of differing intervention design elements, although the findings in this present

study led to the conclusion that future training design may benefit from a mix of on-demand

and live training, or a choice whereby participants can choose the format by which they

learn new information.

The one-to-one and group coaching elements were reported to create the greatest positive

impact in changes to resilience and development of knowledge for participants. The social

learning element of group coaching, along with the support system created through the

process supported the development of resilience and provided an environment to learn

about resilience strategies from others and share perspectives and reflections on the

process of putting strategies into practice. One-to-one coaching provided the opportunity

for participants to work with a practitioner to develop personalised resilience strategies

developed for individual contexts and resilience requirements and is an intervention design

element that has been used in previous research in developing resilience for leaders (Grant

et al., 2009; Sherlock-Storey et al., 2013). This process was referred to as a safe space by

participants, whereby challenges and experiences participants didn't necessarily feel

comfortable sharing in a group setting could be discussed.

4.6.8 Strengths and limitations of this study

This study addressed previous recommendations that qualitative research could further

deepen understanding of how resilience is developed for those participating in interventions

(Johnson et al., 2017; Robertson et al., 2015). In addition, the longitudinal design responded

for a call to action proposed by previous studies to further understand how resilience

develops over time, following the participation in an intervention (Macedo et al., 2014; Robertson et al., 2015; Vanhove et al., 2015).

In a previous systematic review (Roberts, Yarker & Lewis, in prep), only two of the five papers included in the review detailed an intervention designed to explicitly enhance resilience. This present study seeks to address this, as sole objective of the programme was to support leaders in the development of resilience. A variety of delivery design elements were utilised to account for differing learning styles, and to support the application of new skills, behaviours, and strategies (rather than only focusing on learning about the construct of resilience, without focusing on application).

This study was designed to investigate individual and contextual factors that can influence the development of resilience for leaders, as suggested by previous research (Förster & Duchek, 2017; Pangallo, et al., 2015; Windle et al., 2011) and incorporated the IGLOO framework developed by Nielsen et al. (2018), which was used to explicitly explore personal, situational, and contextual factors that may impact the development of resilience throughout an intervention.

Due to the qualitative nature of the research, a control group design was not utilised. Participants were demographically diverse with regard to age, location, and gender, which helped to create the conditions whereby a broad range of perspectives were included in the data analysis process. Participants worked in the same global function within a banking organisation however, so it is unclear how these results would apply to a more generalised

employment population. Attrition data was also collected and explored, providing an insight into data provided by those that left the research programme.

The intervention in this study was delivered by a chartered psychologist, specialising in the area of resilience. Three design components (training, group coaching and one-to-one coaching) based on sound methodology such as cognitive-behavioural solution-focused theory were delivered to account for varying learning styles and target intervention outcomes. There was however a challenge posed as the intervention was delivered by the researcher, which could have resulted in participants not feeling comfortable in rating the effectiveness of the programme, which was why participants were not asked to rate intervention design, but rather discuss design elements of the programme that supported their resilience development journey. Future research may benefit from separating the delivery and research roles.

A theoretical thematic analysis approach was taken, whereby analysis is guided by existing theory and concepts outlined by Nielsen et al. (2018). The IGLOO framework provided a sound structure for the interview process which allowed for a level of granularity when exploring contextual factors that impact the development of resilience for leaders taking part in a resilience intervention, but the use of this framework was also based on the assumption that the framework could be effectively applied in the context of a resilience intervention, which was confirmed by the results presented. If an inductive rather than deductive approach to data collection and analysis had been taken, alternative themes may have emerged, and the choice to a deductive data collection and analysis method may have restricted the themes explored as part of the analysis process presented in this thesis.

Context was an important theme within this research, and extreme circumstances whereby participants were living and working through a pandemic may have shaped emerging themes in a way that would not have occurred if participants weren't navigating such an uncertain workplace landscape. It would be interesting to determine whether similar results would be reported in an alternative employment setting.

4.6.9 Future research

This study has provided an insight into how and why resilience is developed for leaders taking part in an intervention, but there is still much to learn as these findings are built upon in future research. The conceptual model of themes that impact the application of resilience strategies during and following an intervention could be tested and validated in alternative settings to determine how broadly valid the model is. It would be useful to compare data collected post-pandemic to determine the extent to which extreme uncertainty impacts the results presented in this study.

There were many themes identified by participants that did not make the final list of themes in this study, but that doesn't mean they aren't relevant in a wider context. It would be useful to build on the themes presented in this research in the future, but also allow for additional themes to emerge in qualitative data, potentially using an inductive data analysis approach whereby data collection and analysis isn't shaped by a specific framework.

A certain amount of adversity helps to promote the application of resilience-building strategies explored throughout an intervention, but too much pressure can cause overwhelm or burnout. As yet, it is not clear where these boundaries are in an organisational environment, which is something that could be addressed in future research.

It would be useful to deepen qualitative research findings by exploring outcomes associated with resilience interventions, such as performance and wellbeing. It would also be beneficial to understand how and why interventions impact resilience for a wider population outside of leaders and managers, particularly how workplace challenges have affected the broad population whilst the global workforce has been navigating a pandemic in recent years. It would also be beneficial to build on the themes that emerged in this present study, to determine whether they apply in alternative contexts.

Building on from the results presented in this study, it would also be useful to understand under each of the five key themes, which of the sub-themes relate to risk and protective resilience factors (Wright, et al., 2013), for example, scenarios whereby manager attitude and behaviours equate to a risk factor in a negative context, and when they would be explained as a protective factor in a positive context. This exploration started in this present study but could be broadened in future research.

4.6.10 Implications for practice

For those commissioning resilience training within organisations, such as HR teams and senior leaders, it would be beneficial to utilise findings presented in this study to ensure

factors that impact intervention effectiveness and resilience development for individuals are accounted for at each stage of the intervention process, from pre- to post-intervention. For example, promoting support (whether that be managerial, peer or personal) could be beneficial to support resilience development at each stage of the intervention, briefing managers on the impact their attitudes and behaviours have on intervention effectiveness, and ensuring job design elements (such as workload) are shaped in a way that supports intervention implementation for participants could enhance programme effectiveness and resilience development for those taking part.

Understanding how particular delivery elements, such as on-demand training, one-to-one coaching, and group coaching impact both resilience development and application of resilience strategies for participants will ensure practitioners are designing programmse to meet specific outcome requirements, and organisations are commissioning the most cost-effective approach to meet the desired outcome requirements. For example, an organisation might decide that an on-demand (low cost) training approach is sufficient, rather than allocate more budget to one-to-one coaching (high cost) to enable the embedding of learning. In addition, organisational decision makers may decide to allocate more budget to group coaching (medium cost) due to the peer support and social learning benefits.

Organisational policy and procedures didn't emerge as strong-enough theme to be included in presented conceptual model, but it was implicitly mentioned at all time points, whereby participants noted a resilience intervention was not useful or necessary if the organisational conditions such as policy and procedures either did not support, or in fact explicitly

hindered the development of resilience. It would be useful for HR practitioners to familiarise themselves with all themes and sub-themes presented in the Nielsen et al. (2018) IGLOO model.

Based on the findings that extreme adversity or uncertainty can block the development of resilience, it is recommended that those experiencing extreme change, challenges or uncertainty don't take part in a resilience intervention at that time, but rather wait until adversity intensity has decreased. This could help to avoid shorter-term overwhelm and burnout, whereby individuals are introduced to resilience concepts and strategies in an intervention setting, but don't have the capacity to commit to developing the skills, strategies and behaviours required to build resilience, which could pose the opposite outcome effect whereby the programme hinders resilience. When individuals are experiencing acute burnout, stress or anxiety, interventions designed to support people through extreme mental health challenges would be more appropriate. These individuals may benefit from taking part in a resilience programme at a later date.

4.7 Conclusions

Research into the impact of interventions has traditionally been of a quantitative design and systematic literature reviews in this area have concluded some resilience interventions are effective at achieving resilience-related outcomes some of the time (Roberts, Yarker & Lewis, in prep; Robertson et al., 2015; Vanhove et al., 2015). Previous research also suggests outcomes of resilience come from an interaction between individual factors, situational factors, and processes (Förster & Duchek, 2017; Pangallo et al., 2015), and so this study

aimed to deepen understanding of how personal and contextual factors influence application of resilience strategies which support the development of resilience for the leadership population in the workplace.

Key findings in this study highlight factors at an individual, group, leadership, organisational, and outside level that impact how senior leaders implement resilience strategies and build resilience over time in an organisational setting, furthering understanding of how future interventions can be effective in developing resilience for leaders. This study provides insights for practitioners designing and delivering interventions, employees within organisations who commission resilience interventions (such as HR teams), leaders supporting teams who are taking part in interventions, and participants themselves who want to create the conditions within their control that help them to achieve the best outcomes possible from a resilience training and coaching programme.

Chapter 5 – Conclusion

This final chapter aims to explore findings across the systematic literature review and empirical research, discusses future research and practice implications and draws overall conclusions. A synthesis of findings is presented in Table 16.

5.1 Summary of overall aims and findings

	Systematic literature review	**Empirical research**
Aims	To compare outcomes associated with resilience enhancing interventions for leaders.	To understand factors that affect the development of resilience for leaders taking part in a multicomponent coaching and training intervention designed to develop resilience.
Study design	Systematic literature review: - Initial search yielded 2390 papers, using PsycINFO, Scopus and Business Source Premier (EBSCO) - Five final papers that met criteria - Narrative synthesis of findings	Qualitative process evaluation of a resilience intervention for leaders: - Delivery of a resilience intervention including coaching, training, group coaching - Process evaluation using semi-structured interviews at 4x time points pre- to post-intervention at 0, 1, 2 and 4 months - Longitudinal thematic analysis Intervention design Aims: - Develop resilience Delivery method: - 3x 45-60 min virtual on-demand training sessions - 3x 90 min virtual group coaching - 3x 60 min virtual one-to-one coaching per participant Methodology: - Resilience curriculum developed by Mayo Clinic - Cognitive-behavioural solution-focused coaching
Sample	Sample from all five papers: - *n* = 157, industrial, nursing, public sector, and university settings - 3 studies predominantly female, 2 studies predominantly male	Participant details: - *n* = 9, from one banking organisation - 5 male, 4 female - Age range: 42-52 - Number of team members: 4-13 - Locations: US, UAE, China, India, UK

	- Age range: 35-64 (one study), mean 40-50 (four studies) - Locations: Australia, UK, and US - Leadership experience (years as leader): generally not reported	- Senior leadership experience: 4 months – 6 years
Key findings	Outcomes: - Unclear evidence to support the hypothesis that interventions designed to enhance resilience for leaders improve resilience Intervention design: - Delivery: predominantly training (one coaching design, one training + coaching design) - Designed to: develop resilience (x2 studies), develop leadership skills (x2 studies), develop mindfulness skills (x1 study) Outcomes measured: - resilience, hardiness, PsyCap, mental health/wellbeing, change/ambiguity, life quality/happiness, mindfulness Paper quality: - Low to moderate across all five papers	Outcomes: - Each of the five IGLOO (Nielsen et al., 2018) factors impact the development of resilience, and application of resilience strategies - Importance and influence of factors change over time - Overarching factors outside of the IGLOO framework were also identified, including: exposure to challenges and specific programme design elements
Key contributions	Extended evidence/contribution to wider research: - Focus on furthering understanding on how resilience is developed in an intervention setting for a specific leadership population, extending knowledge of outcomes associated with resilience for this population (rather than a homogeneous population)	Extended evidence/contribution to wider research: - Longitudinal design (data collected a x4 timepoints) to deepen understanding of how resilience is developed over time for leaders taking part in an intervention - Explored how personal and contextual factors impact development of resilience, extending knowledge relating to the dynamic and contextual nature of resilience - Qualitative research design to further understanding of how resilience is developed, rather than focusing exclusively on intervention outcomes

Table 16: Summary of thesis overall aims and findings

5.2 Findings from systematic literature review

The aim of the systematic literature review (SLR) was to explore how resilience is developed

for leaders who take part in resilience interventions and compare outcomes associated with

resilience interventions for leaders. A search of three databases yielded 2390 papers, of which only five met the specified inclusion and exclusion criteria.

There was unclear evidence to support the hypothesis that interventions designed to enhance resilience for leaders improve resilience. Conclusions from this SLR were limited for number of reasons:

1. The low number of papers that were included in the review

2. Low quality of papers overall

3. Vast diversity in study design, measurements, resilience definition and intervention objectives, which limited comparison opportunities.

Findings from the SLR indicated resilience interventions delivered for the leadership population are predominantly training interventions (Abbott et al., 2009; Brendel et al., 2016; Grant et al., 2009; Reitz et al., 2020), although coaching is also incorporated into delivery method in some instances (Grant et al., 2009). Often, interventions delivered with the aim of enhancing resilience for leaders do not comprise of resilience-focused theory at all, rather leadership or mindfulness theory (Brendel et al., 2016; Grant et al., 2009; Reitz et al., 2020) and resilience is measured as an outcome for those taking part in leadership or mindfulness intervention.

As findings from the SLR presented in this thesis concluded, currently we know little about the role of specific intervention design on the development of resilience, and even less about how this process works in different contexts. This points to the need for further

evidence detailing how resilience is developed for leaders, and the outcomes associated with resilience interventions.

5.3 Empirical study design

As presented in Table 17, findings from the SLR informed empirical study design. Specific gaps in research and limitations were addressed, with the intention of deepening understanding of how resilience is developed for leaders taking part in a resilience intervention.

SLR finding	Related empirical research design
Interventions were inconsistent in design theory, for example, focusing on leadership or mindfulness training, rather than utilising resilience theory.	Resilience curriculum based on a curriculum developed at the Mayo Clinic carried out by Kamath et al. (2017). Incorporated conservation of resources theory and IGLOO framework into intervention design.
Intervention delivery techniques not explicitly discussed.	Group coaching based on framework outlined by Britton (2013), one-to-one coaching utilised cognitive-behavioural solution-focused coaching approach, as outlined by Neenan and Dryden (2013).
Dynamic nature of resilience and contextual factors that impact the development of resilience not addressed.	Contextual factors that impact resilience were explored using IGLOO framework (Nielsen et al., 2018), dynamic nature of resilience explored by longitudinal design.
Studies were predominantly female or male.	Sample was split 45% male/55% female.
Leadership level and experience unclear.	Leadership level and experience presented.
Attrition data not reported.	Attrition data explored (separately to full sample).

Table 17: SLR findings and empirical research design implications

5.4 Findings from empirical study

The aim of this research was to explore factors that impact the development of resilience for leaders during and after a resilience intervention. In addition, this research set out to explore factors that impact the application of resilience strategies, and changes to these factors over time.

There was evidence to suggest each of the five IGLOO (Nielsen et al., 2018) factors influence the development of resilience for leaders taking part in a resilience intervention. The factors that played a role in both how resilience was developed, and in the application of resilience strategies changed over time, illustrating the dynamic nature of resilience, and supporting previous research (Pangallo et al., 2015).

Each of the higher order IGLOO themes interacted with each other, demonstrating how tightly woven personal and contextual factors are when influencing the development of resilience for leaders taking part in interventions. Findings also suggest exposure to challenges, and specific intervention design elements also influence the development of resilience and application of strategies, factors which are separate to the IGLOO framework.

As detailed in Table 18, the empirical study presented findings that extended previous research, and provided grounding for future research utilising the IGLOO (Nielsen et al., 2018) framework.

IGLOO level	Previous research	Research findings	Future research focus
Individual	Lack of data exploring how resilience is developed over time (Robertson et al., 2015; Vanhove et al., 2016).	Across time points, individual factors impacted the extent to which participants were supported or hindered in their	Explore whether personal factors identified in empirical research are relevant to development of resilience interventions carried out in

		application of resilience-enhancing strategies. Specific factors include: motivation and commitment to programme, resilience self-efficacy and resourcefulness, personal boundaries.	alternative contexts, and whether additional individual factors influence the development of resilience in alternative intervention contexts.
Group	Support is one of the most studied elements of resilience enablement (Nielsen, 2017) and is identified as a resilience enabler in measures of resilience (Pangallo et al., 2015).	Colleague support identified as a factor aiding the development of resilience from the start to end of the intervention (both in a group coaching setting with intervention peers, and in general in the workplace).	Explore the extent to which findings are replicated in alternative contexts, and whether additional group factors play a role in the development of resilience and application of strategies in future interventions.
		Learning from others was another key factor that supported the development of resilience and application of strategies.	Explore the role social learning plays in the development of resilience.
Leadership	Attitudes and behaviours displayed by managers can support or hinder the development of resilience (Avolio et al., 2009).	Manager attitudes and behaviours can be either a protective or risk factor when developing resilience, depending on the context and specific behaviours and attitudes displayed.	Explore the extent to which manager attitudes and behaviours can be a risk or protective factor in various contexts.
		Manager support (along with other forms of support) can aid or hinder the development of resilience for those taking part in an intervention.	Understand how managers can support or hinder the development of resilience across various contexts, and the strength of this influence.
Organisation	Resilience has been found to support positive adaptation during organisational change (IJntema et al., 2021).	Extreme organisational change was a key theme discussed that negatively impacted the development of resilience during the intervention at all time points (over five months).	Explore whether findings are replicated in different change and uncertainty contexts (and whether present study findings that relate to a pandemic scenario can be extended to other contexts).
	Pointless work and excessive workload can hinder the development of resilience Branicki et al., 2019).	Poor job design was discussed as a hinderance to both resilience and programme implementation at all time points.	Understand how job design can be a risk and/or protective factor in developing resilience during interventions across differing environments.

Outside	Contextual and situational factors can act as resilience enablers or blockers (Förster & Duchek, 2017; Pangallo, et al., 2015; Windle et al., 2011).	Contextual factors outside of work (such as Covid-19) reported as resilience enablers and blockers in some situations.	Understand how contextual factors outside of the workplace setting can act as resilience enablers, or resilience blockers across different contexts.
	Support provided by family and friends impacts development of resilience (Förster, & Duchek, 2017; Pangallo et al., 2015).	Support provided by friends and family (plus various other levels of support) impact the development of resilience and application of resilience strategies over time.	Understand the extent to which support can aid the development of resilience and application of resilience strategies in various contexts, over time.
	Resilience strategies shown to buffer against negative outcomes associated with navigating a pandemic (Verdolini et al., 2021).	Working within the context of navigating a pandemic can hinder the development of resilience and the application of strategies.	Explore how resilience is developed in an intervention setting experiencing alternative types of extreme change.
Additional factors	Exposure to challenges and adversity reported as a critical element in the development of resilience (Seery, 2011; Vanhove et al., 2015).	Exposure to challenges and adversity is a key component in the development of resilience and the application of resilience strategies, aligning with the broaden and build resilience development theory (Fredrickson, 2009).	Understand whether there is a sweet-spot whereby sufficient challenge supports the development of resilience in an intervention setting, whereas too much adversity becomes a debilitating factor in the development of resilience.
	Lack of clarity on which intervention delivery components create outcomes (such as performance and wellbeing) for leaders taking part in resilience interventions (Roberts et al., in prep).	One-to-one and group coaching elements were reported to create the greatest positive impact in changes to resilience for participants. Group coaching promoted social learning and aided the development of a support system for participants. Mixed feedback on whether on-demand virtual, or face-to-face training would be most appropriate for development of knowledge.	Quantitative and qualitative research focused on how specific intervention design components impact the development of resilience and additional outcomes (such as performance and wellbeing).
	Lack of longitudinal resilience intervention data (Robertson et al., 2015).	Factors that impact the development of resilience and application of strategies change over time.	Exploration of factors that impact the development of resilience and application of strategies over time in different contexts.

5.5 Recommendations for future research

Definition

The SLR conducted pointed to the fact each of the five papers included defined and measured resilience in a different way. Future research should be consistent in definition and conceptualisation of resilience, which has been recommended in previous systematic reviews and meta-analysis papers (Robertson et al., 2015; Vanhove et al., 2016).

Intervention design

It would strengthen research in the development of resilience for leaders if interventions were designed using robust resilience theory and methodology, and are explicitly delivered to develop resilience, rather than measuring resilience as one of many outcomes for those taking part in a leadership or mindfulness intervention. It would also be useful to determine which delivery components (such as training, coaching or group coaching) help to build resilience for leaders, and how.

Measurement

Studies that aim to measure resilience would benefit from using validated resilience scales, rather than associated constructs such as hardiness or psychological capital. Future research

would also benefit from an exploration of specific facets of resilience that are developed when leaders take part in an intervention.

Outcomes

Due to the limited conclusions that have been drawn in quantitative research exploring the development of resilience for leaders, there is plenty of opportunity to conduct quantitative research to understand outcomes associated with resilience interventions for the leadership population. It would be prudent to focus research on how resilience as an outcome, followed by a focus on additional outcomes such as wellbeing and performance for leaders.

Attrition data and undesirable result reporting

The reporting of attrition data is not necessarily the norm (all five of the studies included in the SLR do not report attrition data) but is recommended in future research (Macedo et al, 2014; Snape et al., 2016). This would provide a richer insight into why participants leave interventions, or why interventions do not achieve the desired results. It would also be beneficial to report on potential adverse effects of taking part in interventions (Macedo et al., 2014) and it would support the development of knowledge in this area if studies detailing interventions that did not achieve desired results were published. There is much we can learn from interventions that haven't gone to plan.

As presented in the empirical study, attrition was reported, and attrition data was analysed in the thematic analysis process (although separately to the full data set). The qualitative

design allowed for discussion of potential adverse effects, but this could be better achieved in future research by quantitatively analysing outcomes associated with interventions, and qualitatively by employing an impartial researcher to investigate potentially negative impacts of taking part in an intervention (to ensure participants are comfortable to share this information).

Understanding how resilience is developed for leaders

The empirical study provided an initial exploration in to the individual and contextual factors that have the potential to impact how resilience is developed for leaders taking part in a resilience intervention. However, future research could deepen understanding of how resilience is developed for leaders by replicating the empirical research carried out in this thesis with different leadership populations, and within different industries. This is particularly important as the empirical research conducted as part of this thesis was carried out during the Covid-19 pandemic, a period of extreme change and uncertainty, which although may create ideal conditions for the application of resilience strategies, it is unknown whether findings would be replicated in less volatile working conditions. Quantitative research could further expand knowledge on this to understand which factors play a critical role in the development of resilience for leaders taking part in resilience interventions in different organisational settings.

Future research would benefit from exploring how resilience is developed for leaders taking part in a resilience intervention with larger samples, across different industries. Research could also be strengthened by a mixed methods design, whereby the impact of programme

delivery elements (such as coaching, group coaching and training) are evaluated quantitatively, with differing populations taking part in each delivery element to offer a comparative insight, and resilience measured pre-, during and two months post-intervention. In tandem, a qualitative interview approach could be taken to understand contextual and personal factors that impact the development of resilience and application of resilience strategies.

As resilience is a dynamic construct (Pangallo et al., 2015), it's imperative that as researchers we strengthen our understanding of how resilience is built over time, which leads to the recommendation all future research in this area is longitudinal in design. Measuring either resilience as a construct, or factors that impact the development of resilience at two time points (such as pre- and immediately post-intervention) doesn't provide the opportunity to explore the complex changes in resilience levels, which can take a significant amount of time to manifest, as is evident in the findings by Roberts et al., (in prep) whereby evidence indicates exposure to challenges is a key factor in the development of resilience, which can take time to occur.

Exposure to challenges

As is clear from the empirical research presented in this thesis, exposure to challenges and dealing with adversity are essential components in developing resilience. It is likely however that there is a critical sweet spot, whereby too much adversity becomes overwhelming and has a negative impact on the development of resilience, and too little adversity doesn't offer enough challenge for resilience to be developed (in line with broaden and build theory,

Fredrickson, 2009). It would be useful to understand where the boundaries of positive and inhibitive adversity lie for individuals in future research.

Protective and risk resilience factors

Findings from the empirical research presented in this thesis detail factors that impact the development of resilience and application of resilience strategies for leaders, it is recommended this is extended further in future research to determine the factors that are both risk and protective factors for individuals taking part in a resilience intervention. For example, a manager's attitude and behaviours can influence the development of resilience and application of resilience strategies for leaders, but it would be useful to understand in further detail the nuances of when this could be a protective factor that helps to support the development of resilience, and alternatively a risk factor when this could inhibit the development of resilience.

Additional populations

This thesis focuses on how resilience is developed during resilience interventions for manager and leadership population. This population face unique challenges as they are often required navigate complex unique challenges and have a pivotal role to play in promoting resilience within their teams, which explains in part why it is imperative researchers and practitioners broaden knowledge of how resilience is developed for this population. It would be interesting for future research to broaden sample criteria, particularly given the extreme change and uncertainty much of the working population have

faced over the past few years following the start of the pandemic. It could be argued that the homogeneous working population are navigating complex and unique challenges at work, now more than ever.

5.6 Implications for practice

Practitioners and facilitators

Findings from empirical research presented in this thesis suggests there are specific outcomes associated with each intervention delivery component. Participants described the training component as the core learning element, whereby they learned new information about the concept of resilience and enhanced knowledge in how to build resilience over time. There were however differing views presented on whether the training component should be an on-demand video format, whereby participants can engage with training at a time that suits them, or face-to-face delivery, whereby they travel to attend a training event. Some of these design elements may be shaped by budget, but it is important to consider how objectives (such as knowledge acquirement and programme engagement) can be met by specific intervention delivery components.

Participants also shared their perspectives on the one-to-one coaching element of the programme, which were universally agreed as a critical component to support the development of resilience, as the individually was provided with the opportunity to work through specific challenges with a coach and share experiences and perspectives they were not necessarily comfortable to do so in a larger group. Equally, all participants stated the

group coaching was an essential part of the application of skills process, but for different

reasons. Findings suggest the group coaching sessions provided the opportunity for

participants to build connections with others on the programme, who were in similar roles.

Participants were able to share experiences and advice, and this process provided a level of

support, which is a critical component of building resilience. Breaking intervention design

down into components provides practitioners with the opportunity to discuss the outcomes

clients would like to achieve, and balance these with cost and budget considerations.

Evidence from the empirical research chapter of this thesis highlights the importance of

support for leaders taking part in a resilience intervention, and when building resilience over

time. The theme emerged in many forms, including colleague support, manager support,

and friend and family support. It is recommended that practitioners focus on promoting

support for participants taking part in resilience programmes. This could be achieved in

many ways, such as including a group coaching element in the intervention delivery process,

which could also continue months post-intervention (as suggested in the empirical research)

or helping participants to identify and nurture support networks throughout the

programme.

Exposure to challenges was identified as a critical factor in the development of resilience, as

this provides an opportunity to test new resilience strategies and build self-awareness about

how adversity interacts with the maintenance and development of resilience for individuals.

It is recommended practitioners utilise these findings and either find opportunities to

include the exposure to challenges during interventions or create programmes that take

place over many months to allow time for challenges and adversity to naturally occur in the participants' working life.

When measuring changes in resilience, it is advised practitioners utilise validated measures that focus on resilience specifically. It is also recommended practitioners describe resilience as a construct using a widely agreed definition and utilise validated resilience theory and methodology when designing resilience training and coaching programmes.

Intervention commissioners

When engaging with a supplier to deliver a resilience programme, it would be beneficial to discuss clear objectives and ensure that the intervention is designed and delivered in a way to meet these objectives. For example, if those commissioning an intervention are interested in leaders enhancing their knowledge of resilience as a construct, a stand-alone training programme may be suitable. If an objective is to develop the skills to build resilience, a longer programme including coaching elements may be appropriate, whereby participants are supported in testing new strategies to build resilience and learn from the process. There may of course be budget constraints to contend with, but a clear cost/outcome analysis should take place before intervention design commences to ensure commissioners, stakeholders and facilitators are clear on how design decisions have been made.

As presented in empirical research findings in this thesis, participants stated programme sponsorship, whereby a senior leader sponsors and explicitly supports the programme

(potentially attending training or group coaching sessions with participants) would indicate to leaders taking part in the programme (and participant line managers) how important the topic of resilience is to senior leaders within the organisation. This would have the benefit of encouraging participants to prioritise the programme in a busy schedule, and to maintain focus on the development of resilience post-programme. Programme sponsorship is a key design consideration which should be addressed by those commissioning the intervention at the design phase.

Support is a critical factor that aids the development of resilience, as was explored in the empirical research within this thesis. Those commissioning interventions, such as Human Resources and Learning and Development teams may not be in a position to offer support to intervention participants personally, but they should consider how support at an organisational level will be deployed in line with intervention delivery. For example, it may be possible to align the programme with a mentoring programme, or communications for managers of participants might state that their support is a crucial element of the programme.

At the intervention design stage, it would be useful to consider how job design (such as workload) and organisational policies and procedures (such as support offered for those experiencing mental health challenges) may hinder or support the development of resilience for leaders taking part in the intervention. For example, leaders and their managers may be advised that job design is an important consideration when signing up to the programme, both allowing for the time to learn and practice new skills and reducing the chance of extreme stress for those experiencing a job design situation which is causing a

negative impact. Similarly, those commissioning interventions may not be in a position to alter or adapt policies and procedures, but they could make it clear to programme sponsors that policies and procedures need to support both the development of resilience and wellbeing overall to provide participants with a stronger opportunity to focus on, and develop, their resilience.

Participants

Based on the findings that extreme adversity or uncertainty can block the development of resilience, it is recommended that leaders experiencing extreme change, challenges or uncertainty don't take part in a resilience intervention, but rather wait until adversity intensity has decreased or has subsided. It would be useful for participants to understand the relationship with extreme adversity and confirm before joining the programme that they're currently experiencing moderate (rather than extreme) challenges, and are not experiencing overwhelm, burnout, extreme stress, or extreme anxiety to achieve the most out of the programme and to ensure taking part will not exasperate challenges associated with dealing with extreme adversity (ideally those in this position could join a resilience programme at a later date).

When joining a resilience programme, it would be beneficial for participants to consider their motivation to put new resilience strategies into practice, even if it could be difficult to find the time, or psychologically uncomfortable for the individual taking part as they address challenges they are facing. It is also important that participants agree to commit to programme dates and requirements, and to embrace the learning experience, as this may

increase the likeliness of completing the programme and gaining maximum benefit from taking part. Of course, unexpected changes to working and personal lives may occur, but motivation and commitment at the start of the programme may help participants to remain engaged when events occur that could make that difficult.

As support was such a key factor in developing resilience and applying resilience strategies, it would be prudent for participants to understand this before joining a resilience programme and commit to utilising support (in any way that is comfortable for the individual) throughout the duration of the programme and beyond. This sets expectations whereby participants would understand they will learn skills and techniques to develop their resilience and draw on support from others (which could include other participants joining the programme).

A final point for participants to consider pre-intervention is openness to learning from others. This was a core theme as presented in the empirical research in this thesis and learning about experiences and strategies to build resilience from others helps to support the development of resilience. Highlighting this for participants before the programme starts informs participants of social learning elements within the programme and provides an opportunity for participants to reflect on how open they are to learning from others, including the facilitator, other participants, sponsors, and team members.

Participant managers

Findings presented in this thesis propose two ways in which managers can aid the development of resilience and application of resilience strategies for leaders reporting into them. These are identified as line manager attitude and behaviours, and line manager support.

Line managers of leaders taking part in a resilience intervention have the opportunity to role model attitudes and behaviours that aid the development of resilience. This could include sharing personal stories detailing where the line manager has experienced resilience challenges, and strategies they've put in place to develop their own resilience. Ideally, this would be in real-time, whereby managers share challenges they face right now, and the sometimes-messy process of dealing with these, which was reported as something participants connect with and appreciate in the empirical research presented. By managers displaying attitudes and behaviours that explicitly portray how adversity can impact resilience reserves and discussing how individuals can address this (which isn't always a comfortable process), participants are likely to feel they have permission to behave in the same way, potentially resulting in the development of resilience being a focus in their careers.

As detailed in the empirical research presented, examples of line manager support that helped participants to focus on the development of their resilience included managers scheduling discussions whereby programme participants briefed their managers on the resilience programme, and discussed their progress, challenges, and opportunities. This resulted in participants feeling that their managers took the programme seriously and provided opportunities for mentoring to help participants develop resilience, and at times

managers were able to address issues (such as job design and workload) to help support the development of resilience for participants. The reverse relationship was also reported, whereby participants discussed examples where they did not perceive their manager as supportive of the programme, which for some participants lead to the conclusion they would not be able to develop their resilience, as changes either they needed to make (such as setting clear boundaries) or changes that would need to be made at an organisational level (such as reducing workload) to remove blockers to resilience would not be possible. This can lead to a despondence displayed by participants, which can have a significant impact on the likelihood of individuals both practicing new skills and engaging with the programme.

It is important that managers are engaged with resilience programme, both pre- during and post-intervention, and display support for leaders taking part. This could be in the format of briefings, resilience coaching or mentoring sessions, or the commitment to make changes (such as job design) where possible and necessary. This also paves the way for managers to create an environment that promotes psychological safety, whereby leaders taking part in an intervention feel they can be honest about their challenges, mistakes they've made, and changes that need to occur in order to for the individual to thrive at work – all of which can be difficult conversations, particularly if psychological safety is not an aspect of team culture.

5.7 Conclusion

In conclusion, this thesis has the potential to broaden knowledge about how resilience is developed for leaders taking part in resilience interventions in the workplace. The SLR crystalised what we know so far about outcomes associated with resilience interventions for the leadership population and pointed to the limited evidence we have for understanding how and why resilience is developed in an intervention setting for this population, as well as limited evidence to support the concept that resilience interventions in fact help to build resilience for participants, and influence outcomes such as wellbeing and performance.

Empirical research utilised the IGLOO framework supported the conceptualisation of how individual and contextual factors can help or hinder the development of resilience for leaders taking part in a resilience intervention. In a qualitative manner, this has broadened understanding of how resilience is developed for leaders, and deepened knowledge of how individual, group, leadership, and organisational factors, as well as those outside of the organisational setting impact and influence both the development of resilience for leaders taking part in an intervention, and the application of resilience strategies for leaders.

The conceptual model of factors that impact development of resilience for leaders taking part in coaching and training interventions can be utilised by practitioners in the future to design evidence-based interventions that incorporate a focus on contextual as well as personal factors to support the development of resilience. This model will also help those commissioning interventions, leaders taking part, and those manging participants to understand the roles they can play in helping to achieve the outcome of enhanced resilience and application of new resilience skills for leaders taking part in an intervention.

As extreme uncertainty in the workplace associated with navigating a pandemic fades, and the 'new normal' emerges, it's becoming clear that change is something we will all need to embrace in our working lives today and in the future. For that reason, focusing on building and maintaining resilience at work has become an imperative skill for leaders to embrace, as they continue to take steps into the unknown and meet evolving expectations, and support their team members with their performance and wellbeing in complex conditions. The results presented in this thesis are done so with the intention that they can pave the way for future research in this area and help practitioners to confidently design interventions that provide leaders with the best chance of building their resilience reserves.

References

Abbott, J. A., Klein, B., Hamilton, C., & Rosenthal, A. J. (2009). The impact of online resilience training for sales managers on wellbeing and performance. *Sensoria: A Journal of Mind, Brain & Culture*, *5*(1), 89-95.

Abildgaard, J. S., Saksvik, P. Ø., & Nielsen, K. (2016). How to measure the intervention process? An assessment of qualitative and quantitative approaches to data collection in the process evaluation of organizational interventions. *Frontiers in Psychology*, *7*, 1380.

Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism VS interpretivism. *Global Academic Journal of Humanities and Social Sciences*, *2*(3), 39-43.

Arends, I., Bültmann, U., Nielsen, K., van Rhenen, W., de Boer, M. R., & van der Klink, J. J. (2014). Process evaluation of a problem solving intervention to prevent recurrent sickness absence in workers with common mental disorders. *Social Science & Medicine*, *100*, 123-132.

Avey, J. B., Avolio, B. J., & Luthans, F. (2011). Experimentally analyzing the impact of leader positivity on follower positivity and performance. *The Leadership Quarterly*, *22*(2), 282-294.

Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human resource management*, *48*(5), 677-693.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human resource development quarterly*, *22*(2), 127-152.

Avolio, B., Walumbwa, F., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. *Management Department Faculty Publications*, 37.

Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. *Journal of Economic Psychology*, *42*, 126-135.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27-45.

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice Hall: Englewood cliffs.

Bernin, P. (2002). *Managers working conditions: Stress and health*. Institutionen för folkhälsovetenskap/Department of Public Health Sciences.

Bonanno, G. A., & Diminich, E. D. (2013). Annual Research Review: Positive adjustment to adversity–trajectories of minimal–impact resilience and emergent resilience. *Journal of child psychology and psychiatry*, *54*(4), 378-401.

Bonneywell, S., & Gannon, J. (2021). Maximising female leader development through simultaneous individual and group coaching. *Coaching: An International Journal of Theory, Research and Practice*, 1-17.

Branicki, L., Steyer, V., & Sullivan-Taylor, B. (2019). Why resilience managers aren't resilient, and what human resource management can do about it. *The International Journal of Human Resource Management*, *30*(8), 1261-1286.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage.

Braun, V & Clark, V. (2013) *Research methods for business students*. Pearson education.

Bennis, W. G., & Nanus, B. (1985). Leaders: The strategies for taking charge. New York: Harper & Row.

Brendel, W., Hankerson, S., Byun, S., & Cunningham, B. (2016). Cultivating leadership Dharma: Measuring the impact of regular mindfulness practice on creativity, resilience, tolerance for ambiguity, anxiety and stress. *Journal of Management Development*.

Briner, R. B., & Denyer, D. (2012). Systematic review and evidence synthesis as a practice and scholarship tool. *Handbook of evidence-based management: Companies, classrooms and research*, 112-129.

Briner, R. B., & Rousseau, D. M. (2011). Evidence-based I–O psychology: Not there yet. *Industrial and Organizational Psychology*, *4*(1), 3-22.

Britton, J. J. (2013). *From one to many: Best practices for team and group coaching*. John Wiley & Sons.

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. sage.

Budner, S. (1962). Tolerance for ambiguity scale. *Journal of Personality*, *30*(1), 29-50.

Cassell, C. (2011). Evidence-based I–O psychology: what do we lose on the way?. *Industrial and Organizational Psychology*, *4*(1), 23-26.

Chaskalson, M. (2014). *Mindfulness in Eight Weeks: The revolutionary 8 week plan to clear your mind and calm your life*. HarperCollins UK.

Cicchetti, D., & Garmezy, N. (1993). Prospects and promises in the study of resilience. *Development and psychopathology*, *5*(4), 497-502.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and social behavior*, 385-396.

Connor, K.M. and Davidson, J.R.T. (2003), "Development of a new resilience scale: the Connor- Davidson Resilience Scale (CD-RISC)", *Depression and Anxiety*, Vol. 18 No. 2, pp. 76-82.

Cornum, R., Matthews, M. D., & Seligman, M. E. (2011). Comprehensive soldier fitness: building resilience in a challenging institutional context. *American psychologist*, *66*(1), 4.

Crabtree-Nelson, S., & DeYoung, L. P. (2017). Enhancing resilience in active duty military personnel. *Journal of psychosocial nursing and mental health services*, *55*(2), 44-48.

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Crotty, M. J. (1998). The foundations of social research: Meaning and perspective in the research process. *The foundations of social research*, 1-2.

Crowder, R., & Sears, A. (2017). Building resilience in social workers: An exploratory study on the impacts of a mindfulness-based intervention. *Australian Social Work*, *70*(1), 17-29.

Davda, A. (2011), "Measuring resilience: a pilot study", *Assessment & Development Matters,* Autumn, pp. 11-14.

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy.

De Vries, M. F. K. (2019). Executive group coaching: interventions not for the faint of heart. In *Advances in Global Leadership*. Emerald Publishing Limited.

Denyer, D., & Tranfield, D. (2009). Producing a systematic review. In D. A. Buchanan & A. Bryman (Eds.), *The Sage handbook of organizational research methods* (pp. 671–689). Sage Publications Ltd.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. sage.

Dimoff, J. K., & Kelloway, E. K. (2019). With a little help from my boss: The impact of workplace mental health training on leader behaviors and employee resource utilization. *Journal of occupational health psychology*, *24*(1), 4.

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of personality and social psychology*, *92*(6), 1087.

Edwards, J. R., Caplan, R. D., & Van Harrison, R. (1998). Person-environment fit theory. *Theories of organizational stress*, *28*(1), 67-94.

Fergusson, D. M., & Horwood, L. J. (2003). Resilience to childhood adversity: Results of a 21-year study. *Resilience and vulnerability: Adaptation in the context of childhood adversities*, 130-155.

Finlay, L. (2014). Engaging phenomenological analysis. *Qualitative research in psychology*, *11*(2), 121-141.

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European psychologist*, *18*(1), 12.

Foster, K., Cuzzillo, C., & Furness, T. (2018). Strengthening mental health nurses' resilience through a workplace resilience programme: A qualitative inquiry. *Journal of psychiatric and mental health nursing*, *25*(5-6), 338-348.

Förster, C., & Duchek, S. (2017). What makes leaders resilient? An exploratory interview study. *German Journal of Human Resource Management*, *31*(4), 281-306.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology – The broaden-and-build theory of positive emotions. p. 218. *American Psychologist, 56*(3), 218-226.

Fowler, J. H., & Christakis, N. A. (2008). Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Study. *Bmj*, *337*.

Fredrickson, B. L., (2009). *Positivity*. Crown.

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of personality and social psychology*, *95*(5), 1045.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological science*, *13*(2), 172-175.

Fugard, A. J., & Potts, H. W. (2015). Supporting thinking on sample sizes for thematic analyses: a quantitative tool. *International Journal of Social Research Methodology*, *18*(6), 669-684.

Galanti, T., Guidetti, G., Mazzei, E., Zappalà, S., & Toscano, F. (2021). Work from home during the COVID-19 outbreak: The impact on employees' remote work productivity, engagement, and stress. *Journal of occupational and environmental medicine*, *63*(7), e426.

Garmezy, N. (1991). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric annals*, *20*(9), 459-466.

Ghosh, R., Shuck, B., Cumberland, D., & D'Mello, J. (2019). Building psychological capital and employee engagement: Is formal mentoring a useful strategic human resource development intervention?. *Performance Improvement Quarterly*, *32*(1), 37-54.

Goffee, R., & Jones, G. (2000). Why should anyone be led by you?. *Communication, Relationships and Care: A Reader*, 354-60.

Gooty, J., Gavin, M., Johnson, P. D., Frazier, M. L., & Snow, D. B. (2009). In the eyes of the beholder: Transformational leadership, positive psychological capital, and performance. *Journal of Leadership & Organizational Studies*, *15*(4), 353-367.

Grant, A. M. (2003). The impact of life coaching on goal attainment, metacognition and mental health. *Social Behavior and Personality: an international journal*, *31*(3), 253-263.

Grant, A. M., Curtayne, L., & Burton, G. (2009). Executive coaching enhances goal attainment, resilience and workplace well-being: A randomised controlled study. The journal of positive psychology, 4(5), 396-407.

Greasley, K., & Edwards, P. (2015). When do health and well-being interventions work? Managerial commitment and context. *Economic and Industrial Democracy*, *36*(2), 355-377

Halbesleben, J. R. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. *Work engagement: A handbook of essential theory and research*, *8*(1), 102-117.

Halbesleben, J. R. B., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR": Understanding the Role of Resources in Conservation of Resources Theory. *Journal of Management*, 40, 1334-1364.

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.

Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology*, *69*(3), 913-959.

Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, *31*(1), 3-23.

Hobfoll, S. E., (1998). *The ecology of stress*. New York: Hemisphere.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. American Psychologist, 44, 513–524.

Hobfoll, S. E. (1991). Traumatic stress: A theory based on rapid loss of resources. *Anxiety Research*, *4*(3), 187-197.

Hofer, B. K., & Pintrich, P. R. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of educational research*, *67*(1), 88-140.

Holden, L., & Roberts, I. (2004). The depowerment of European middle managers: Challenges and uncertainties. *Journal of managerial psychology*.

Holmberg, R., Larsson, M., & Bäckström, M. (2016). Developing leadership skills and resilience in turbulent times. *Journal of Management Development*.

Holt, D.T., Armenakis, A.A., Field, H.S. & Harris, S.G. (2007). Readiness for organisational change: The systematic development of a scale. *Journal of Applied Behavioural Science*, 43, 232–255.

Houston, S. (2014). Critical realism. In D. Coghlan and M. Brydon-Miller (eds), *The Sage Encyclopedia of Action Research.* London: Sage, 220-222.

IJntema, R. C., Ybema, J. F., Burger, Y. D., & Schaufeli, W. B. (2021). Building resilience resources during organizational change: A longitudinal quasi-experimental field study. *Consulting Psychology Journal: Practice and Research*, *73*(4), 302.

Irvine, W. B. (2019). *The Stoic Challenge: A Philosopher's Guide to Becoming Tougher, Calmer, and More Resilient*. WW Norton & Company.

Jago, A. G. (1982). Leadership: Perspectives in theory and research. Management Science, 28(3), 315–336.

James, K. (2011). The organizational science of disaster/terrorism prevention and response: Theory-building toward the future of the field. *Journal of Organizational Behaviour, 32,* 1013-1032.

Johnson, J., Panagioti, M., Bass, J., Ramsey, L., & Harrison, R. (2017). Resilience to emotional distress in response to failure, error or mistakes: A systematic review. *Clinical psychology review*, *52*, 19-42.

Joyce, S., Shand, F., Bryant, R. A., Lal, T. J., & Harvey, S. B. (2018). Mindfulness-based resilience training in the workplace: pilot study of the internet-based Resilience@ Work (RAW) mindfulness program. *Journal of medical Internet research*, *20*(9), e10326.

Kamath, J., Hoover, M. R., Shanafelt, T., Sood, A., McKee, P. B., & Dhanorker, S. R. (2017). Addressing burnout by enhancing resilience in a professional workforce: A qualitative study. *Management in Healthcare*, *2*(2), 165-178.

Kim, J. I., Yun, J. Y., Park, H., Park, S. Y., Ahn, Y., Lee, H., Kim, T. K., Yoon, S., Lee, Y. J., Oh, S., Denninger, J. W., Kim, B. H & Kim, J. H., (2018). A mobile videoconference-based intervention on stress reduction and resilience enhancement in employees: randomized controlled trial. *Journal of medical Internet research*, *20*(10), e10760.

Kim-Cohen, J. (2007). Resilience and developmental psychopathology. *Child and adolescent psychiatric clinics of North America*, *16*(2), 271-283.

Kobasa, S.C. (1979). Stressful life event, personality and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 79, 1–11.

Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer. *The Qualitative Report, 10*(4), 758-770.

Kuhn, T.S. (1970). The structure of scientific revolutions. 2nd Edition, Chicago Uni. The University of Chicago Press.

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: 123-133.

Levin, D. M. (1988). The opening of vision: Nihilism and the postmodern situation. London: Routledge.

Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety Stress Scales (2nd Ed.). Sydney: Psychology Foundation.

Luthans, F. (2002), "The need for and meaning of positive organizational behaviour", *Journal of Organizational Behavior,* Vol. 23 No. 6, pp. 695-706.

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: The*

International Journal of Industrial, Occupational and Organizational Psychology and Behavior, *27*(3), 387-393.

Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning & Education*, *7*(2), 209-221.

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, 541–572.

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons,* Volume 47(1), 45–50.

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. (2007). *Psychological capital*. 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.

Macedo, T., Wilheim, L., Gonçalves, R., Coutinho, E. S. F., Vilete, L., Figueira, I., & Ventura, P. (2014). Building resilience for future adversity: a systematic review of interventions in non-clinical samples of adults. *BMC psychiatry*, *14*(1), 227.

Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity: Challenges and prospects. In *Educational resilience in inner city America: Challenges and prospects* (pp. 3-25). Lawrence Erlbaum.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American psychologist*, *56*(3), 227.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and psychopathology*, *2*(4), 425-444.

Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual review of psychology*, *63*, 227-257.

Masten, A. S., Powell, J. L., & Luthar, S. S. (2003). A resilience framework for research, policy, and practice. *Resilience and vulnerability: Adaptation in the context of childhood adversities*, *1*(25), 153.

Matthews, G., Panganiban, A. R., Wells, A., Wohleber, R. W., & Reinerman-Jones, L. E. (2019). Metacognition, hardiness, and grit as resilience factors in unmanned aerial systems (UAS) operations: a simulation study. *Frontiers in Psychology*, *10*, 640.

McDonald, G., Jackson, D., Wilkes, L., & Vickers, M. (2013). Personal resilience in nurses and midwives: effects of a work-based educational intervention. *Contemporary nurse*, *45*(1), 134-143.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., Altman, D., Antes, G. & Clark, J. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement (Chinese edition). *Journal of Chinese Integrative Medicine*, *7*(9), 889-896.

Morris, J., Hassard, J., & McCann, L. (2008). The resilience of institutionalized capitalism': Managing managers under shareholder capitalism managerial capitalism'. *Human Relations*, *61*(5), 687-710.

Nascimento, L. D. S., & Steinbruch, F. K. (2019). "The interviews were transcribed", but how? Reflections on management research. *RAUSP Management Journal*, *54*, 413-429.

Neenan, M., & Dryden, W. (2013). *Life coaching: A cognitive behavioural approach*. Routledge.

Nielsen, K., & Abildgaard, J. S. (2013). Organizational interventions: A research-based

framework for the evaluation of both process and effects. *Work & Stress*, *27*(3), 278-297.

Nielsen, K., De Angelis, M., Innstrand, S. T., & Mazzetti, G. (2022). Quantitative process

measures in interventions to improve employees' mental health: A systematic literature

review and the IPEF framework. *Work & Stress*, 1-26.

Nielsen, K., Nielsen, M. B., Ogbonnaya, C., Känsälä, M., Saari, E., & Isaksson, K. (2017).

Workplace resources to improve both employee well-being and performance: A systematic

review and meta-analysis. *Work & Stress*, *31*(2), 101-120.

Nielsen, K., & Randall, R. (2013). Opening the black box: Presenting a model for evaluating

organizational-level interventions. *European Journal of Work and Organizational

Psychology*, *22*(5), 601-617.

Nielsen, K., Taris, T. W., & Cox, T. (2010). The future of organizational interventions:

Addressing the challenges of today's organizations. *Work & Stress*, 24, 219-233.

Nielsen, K., Yarker, J., Munir, F., & Bultmann, U. (2018). IGLOO: An integrated framework for

sustainable return to work in workers with common mental disorders. *Work and stress*,

32(4), 400-417.

Noe, R. A., Noe, A. W., & Bachhuber, J. A. (1990). An investigation of the correlates of career motivation. *Journal of vocational behavior*, *37*(3), 340-356.

Nowack, K. (1990). Initial development of an inventory to assess stress and health. *American Journal of Health Promotion*, 4, 173–180.

Northouse, P. G. (2010). Leadership: Theory and practice (5th ed.). Thousand Oaks, CA: Sage

Oshio, A., Taku, K., Hirano, M., & Saeed, G. (2018). Resilience and Big Five personality traits: A meta-analysis. *Personality and Individual Differences*, *127*, 54-60.

Pangallo, A., Zibarras, L., Lewis, R., & Flaxman, P. (2015). Resilience through the lens of interactionism: A systematic review. *Psychological Assessment*, *27*(1), 1.

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: toward an integrative model of change. *Journal of consulting and clinical psychology*, *51*(3), 390.

Reed, B. N., Klutts, A. M., & Mattingly, T. J. (2019). A systematic review of leadership definitions, competencies, and assessment methods in pharmacy education. *American Journal of Pharmaceutical Education*, *83*(9).

Reitz, M., Waller, L., Chaskalson, M., Olivier, S., & Rupprecht, S. (2020). Developing leaders through mindfulness practice. *Journal of Management Development*.

Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. Broadway books.

Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of clinical psychology*, *58*(3), 307-321.

Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of occupational and organizational psychology*, *88*(3), 533-562.

Roche, M., Haar, J. M., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. *Journal of occupational health psychology*, *19*(4), 476.

Rodriguez, A., & Rodriguez, Y. (2015). Metaphors for today's leadership: VUCA world, millennial and "Cloud Leaders". *Journal of Management Development*.

Rojon, C., McDowall, A., & Saunders, M. N. (2011). On the experience of conducting a systematic review in industrial, work, and organizational psychology: Yes, it is worthwhile. *Journal of Personnel Psychology*, *10*(3), 133.

Rojon, C., Okupe, A., & McDowall, A. (2020). Utilisation and development of Systematic Reviews in management research: what do we know and where do we go from here?. *International Journal of Management Reviews*.

Rose, R. D., Buckey Jr, J. C., Zbozinek, T. D., Motivala, S. J., Glenn, D. E., Cartreine, J. A., & Craske, M. G. (2013). A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. *Behaviour research and therapy*, *51*(2), 106-112.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *The British journal of psychiatry*, *147*(6), 598-611.

Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, *1094*(1), 1-12.

Sarkar, M., & Fletcher, D. (2013). How should we measure psychological resilience in sport performers?. *Measurement in Physical Education and Exercise Science*, *17*(4), 264-280.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Schommer, M. (1994). Synthesizing epistemological belief research: Tentative understandings and provocative confusions. *Educational psychology review*, *6*, 293-319.

Seery, M. D. (2011). Resilience: A silver lining to experiencing adverse life events?. *Current Directions in Psychological Science*, *20*(6), 390-394.

Shaikh, A., & Kauppi, C. (2010). *Deconstructing resilience: Myriad conceptualizations and interpretations*.

Sherlock-Storey, M., Moss, M., & Timson, S. (2013). Brief coaching for resilience during organisational change—An exploratory study. *The Coaching Psychologist*.

Slife, B. D., Williams, R. N., & Williams, R. N. (1995). *What's behind the research?: Discovering hidden assumptions in the behavioral sciences*. Sage.

Smith, C. L. (2017). Coaching for leadership resilience: An integrated approach. *International Coaching Psychology Review, 12*, 6-23.

Snape, D., Meads, C., Bagnall, A. M., Tregaskis, O., & Mansfield, L. (2016). What works well-being: A guide to our evidence review methods. What works for well-being centre. *Retrived from https://whatworkswellbeing. files. wordpress. com/2016/02/whatworks-wellbeing-methods-guide-july-2016. pdf*.

Sood, A., Prasad, K., Schroeder, D., & Varkey, P. (2011). Stress management and resilience training among Department of Medicine faculty: a pilot randomized clinical trial. *Journal of general internal medicine*, *26*(8), 858-861.

Sominsky, L., Walker, D. W., & Spencer, S. J. (2020). One size does not fit all–Patterns of vulnerability and resilience in the COVID-19 pandemic and why heterogeneity of disease matters. *Brain, behavior, and immunity*, *87*, 1.

Sommer, S. A., Howell, J. M., & Hadley, C. N. (2016). Keeping positive and building strength: The role of affect and team leadership in developing resilience during an organizational crisis. *Group & Organization Management*, *41*(2), 172-202.

Spielberger, C.D., Gorsuch, REL., Lushene, R., Vagg, P.R. and Jacobs, G.A. (1983), *Manual for the State-Trait Anxiety Inventory*, Consulting Psychologists Press, Palo Alto, CA.

Stanley Budner, N. Y. (1962). Intolerance of ambiguity as a personality variable 1. *Journal of personality*, *30*(1), 29-50.

Thomas, C. H., & Lankau, M. J. (2009). Preventing burnout: The effects of LMX and mentoring on socialization, role stress, and burnout. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, *48*(3), 417-432.

Todt, G., Weiss, M., & Hoegl, M. (2018). Mitigating negative side effects of innovation project terminations: The role of resilience and social support. *Journal of Product Innovation Management*, *35*(4), 518-542.

Tonkin, K., Malinen, S., Näswall, K., & Kuntz, J. C. (2018). Building employee resilience through wellbeing in organizations. *Human Resource Development Quarterly*, *29*(2), 107-124.

Turner, M. L., & Engle, R. W. (1989). Is working memory capacity task dependent?. *Journal of memory and language*, *28*(2), 127-154.

Vanhove, A. J., Herian, M. N., Perez, A. L., Harms, P. D., & Lester, P. B. (2016). 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.

Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. *BMC medical research methodology*, *18*(1), 1-18.

Verdolini, N., Amoretti, S., Montejo, L., García-Rizo, C., Hogg, B., Mezquida, G., Rabelo-da-Ponte, F. D., Vallespir, C., Radua, J., Martinez-Aran, A., Pacchiarotti, I., Rosa, A. R., Bernardo, M., Vieta, E., Torrent, C., & Solé, B. (2021). Resilience and mental health during the COVID-19 pandemic. *Journal of Affective Disorders*, *283*, 156-164.

Vogus, T. J., & Sutcliffe, K. M. (2007, October). Organizational resilience: towards a theory and research agenda. In *2007 IEEE international conference on systems, man and cybernetics* (pp. 3418-3422). IEEE.

Whitmore, J. (1996). *Coaching for performance*. London: N. Brealey Pub.

Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in clinical gerontology*, *21*(2), 152.

Windle, G., Bennett, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and quality of life outcomes*, *9*(1), 1-18.

World Health Organization (2000). Australian WHOQOL-100, WHOQOL-BREF and CA-WHOQOL instruments: User's manual and interpretation guide. Melbourne: Melborne WHOQOL Field Study Centre.

Wright, M. O. D., Masten, A. S., & Narayan, A. J. (2013). Resilience processes in development: Four waves of research on positive adaptation in the context of adversity. In *Handbook of resilience in children* (pp. 15-37). Springer, Boston, MA.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of management review*, *26*(2), 179-201.

Xanthopoulou, D., Bakker, A.B., Demerouti, E. and Schaufeli, W.B. (2007), "The role of personal resources in the job demands-resources model", *International Journal of Stress Management*, Vol. 14 No. 2, pp. 121-141.

Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of planning education and research*, *39*(1), 93-112.

Yukl, G. (2006). Leadership in organizations (6th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall.

Zunz, S. J. (1998) Resiliency and burnout: Protective factors for human service managers.

Administration in Social Work, 22(3), 39-54.

Appendix 1: Reflective assessment

Stage	Questions	Reflections
Scoping out research idea	What challenges did you face and how did you overcome them?	Finding a review question was particularly challenging. Initially I wanted to research the relationship between resilience and performance, but this proved difficult due to the potentially moderating role of wellbeing. I also didn't find a huge amount of research papers in this area. A systematic literature review on the effectiveness of resilience interventions has been published, and a meta-analysis in a similar area has also been published. I decided to look at interventions, but for a specific population – managers and leaders, which has not been done before. This makes sense as leaders and managers are often asked to take part in resilience interventions, but we know little about whether resilience interventions are effective for this population.
	Did your initial idea change during this stage? If so, how and why?	I struggled to identify a research area focused in an area where there is a gap in published research, where there are enough published papers to conduct a meaningful review, where the topic is of interest to me, and where I have the opportunity to carry out research. My review ideas changed throughout the process. I had to move away from reviewing the relationship between resilience and performance, to focusing on interventions, and ultimately interventions for a specific population. The process of changing my question was very frustrating, and I questioned whether the systematic literature review was a process I wanted follow – but I had no choice as it is a requirement of the doctorate programme.
	How did this process differ from your expectations?	I expected the process of finding a research question to be a lot more straightforward, structured and obvious than it turned out to be.
	What were your key learnings from this stage?	I learnt a lot about balancing adaptability when finding a question, with focusing on an area that's interesting to me. It took a lot of consideration and exploration to find a research area I was interested in, where a review will add value to the growing body of resilience research. This wasn't an easy process at all, and I felt like I wasted a lot of time and energy trying to work this out.
	What would you do differently if you were to go through this process again?	I'm not sure I could do anything differently because it has all been part of the learning process, and resilience is a tricky research topic.

The systematic review: Developing a protocol	What challenges did you face and how did you overcome them?	It took a while to understand the process of developing a protocol and exploring appropriate research terms. I found that I had to keep going back to the protocol to edit details as the systematic literature process became more familiar.
	How did this process differ from your expectations/plan?	I had planned to complete the document and move on, but that wasn't how it worked in reality, I found myself constantly adjusting my protocol document.
	What were your key learnings from this stage?	I learnt what details should go into a good quality protocol document, which I had no clue about before starting the doctorate programme. In fact, I hadn't even thought about the process required to complete a systematic literature review. The skills I've learnt will help me to complete good quality reviews in the future (if I ever have to conduct one again), and also to critically assess reviews I read.
	What would you do differently if you were to go about developing a protocol again?	I would start this process sooner if I were to do it again. It took me longer than anticipated to complete the protocol and to understand the process. This was partly to do with my circumstances also – I have two small children, and my work was unexpectedly busy during lockdown. I'm not sure I could manage the balance between work, family and doctorate differently, mostly I was just in survival mode, doing what I could.
The systematic review: Conducting searches	How did you come to a decision on the keywords, databases and inclusion/exclusion criteria to use?	This took some time to figure out. I used existing SLRs on the topic of resilience as a guide to identify databases, keywords, and exclusion/inclusion criteria. I also read around the topic of resilience to identify keywords, especially with regard to including similar constructs, such as PsyCap, hardiness and grit. My supervisors also offered advice based on their experience.
	What challenges did you face and how did you overcome them?	The initial sift of papers following searches was at times overwhelming, it felt like there was a lot to read and understand in order to make decisions as to whether the papers met the inclusion/exclusion criteria. I appreciated the support from my supervisors at this point, as they sense-checked the decisions I had made, and we discussed discrepancies, and ultimately agreed on which papers would go through to each sifting stage. I managed this process by reviewing papers in chunks of time, I found if I spent too long reviewing papers I wasn't taking in information, so I did this work in two-hour time slots.
	How did this process differ from your expectations/plan?	I didn't have any expectations on the process as I had never conducted a SLR before. The search process did however take a lot longer than I had anticipated.
	What were your key learnings from this stage?	I learnt quickly how critical it was to work with my supervisors to ensure we agreed on each stage of the search process. I only took each small step once we'd had a review meeting to agree (or come to an agreement) on how to progress at each stage of the search process. I also learnt how important the inclusion and exclusion criteria were,

		being clear on this helped me to make difficult decisions about which papers proceeded to following search stages.
	What would you do differently if you were to go about conducting systematic searches again?	I don't think there is much I could do differently as I was very focused on following a process. I didn't enjoy the process, but I followed it!
The systematic review: Assimilation and write up	How did you come to a decision on the way to cluster the data and tell the story? How did you make the choice of target journal?	I reviewed examples in previously published SLRs, and with the help of my supervisors, we decided the SPIO framework would be the most relevant for my SLR, as this fitted well with researching interventions. At the data extraction stage, I used the SPIO framework as a guide, and created a spreadsheet that incorporated all possible useful information that I might want to compare under each of the four SPIO categories. I don't have a target journal for my SLR, I don't plan to publish the findings in an academic journal.
	What challenges did you face and how did you overcome them?	It was tricky to conceptualise the differences between PsyCap and resilience, which is why PsyCap was used as a search term. In hindsight, maybe it would have been easier to investigate the relationship between PsyCap interventions and outcomes. I found the assimilation process overwhelming as there was a huge amount of data to extract and review, it was confusing at times. This process did however provide an opportunity to get to know the five papers in my SLR very well, which was a critical part of the process. It took many attempts of reading and reviewing the extraction data to really understand how to compare data across studies. It was a messier process than I expected because the research in each of the five papers was carried out in different ways, using different definitions of resilience, measuring different outcomes. I found the quality assessment process really hard. There were parts that felt subjective, I thought there would be hard and fast rules about quality. In some areas I had to make judgement calls (with my supervisors) that I wasn't comfortable doing as someone new to the world of research at this level. I was disappointed and shocked about the low level of quality for the papers included in my SLR, I had assumed a certain level of quality for published papers. It also made comparing data difficult, because reported results weren't necessarily as powerful due to low quality assessments.
	How did this process differ from your expectations/plan?	I thought this process would be more objective, but there was a degree of subjective judgement that had to be used when comparing data.
	What were your key learnings from this stage?	I learnt the technical process of writing up an SLR, which are skills that will help me in my work life as a practicing

| | | psychologist. I also learnt that there is a degree of subjectivity involved in producing a SLR, which I hadn't expected.

I found I have to focus when doing deep work like writing up a SLR, writing up little and often doesn't work for me. I need to focus on this for half days or whole days at a time, which is challenging with a business to run and family commitments. |
|---|---|---|
| | What would you do differently if you were to go about writing up again? | I would start the process earlier; I was still at the start of the doctorate process when I conducted the SLR and time slipped away. I did however have a two-week-old baby when I started the doctorate programme, and a two year old, so I knew I would make slower progress in the first part of the programme. |

Research Study: Design and Proposal	How did you come to a decision on the study/studies you were going to undertake?	My research proposal was based on findings and research gaps highlighted as part of the SLR I conducted. I also took into account 1), additional research papers I read when researching to figure out my SLR topic, 2), my interests and experiences of both delivering resilience interventions and my own experience of resilience and 3), my capacity to conduct research.
	Why did you decide to use the particular methodology/analytical process?	This decision was based on my SLR, which indicated a gap in qualitative data when it comes to understanding resilience intervention effectiveness, we don't know a great deal about how or why interventions impact reported results. This led to me designing a qualitative study, conducting interviews and thematic analysis to understand leaders' perspectives on the internal and contextual factors that impact resilience development when taking part in a resilience intervention.

I chose to use a theoretical thematic analysis approach because:
1) The IGLOO framework aligned with previous research that stated personal and external factors influence resilience development (and the IGLOO framework addresses both factors).
2) To provide some structure to the 40 interviews I had to conduct in a short space of time, whilst allowing for additional themes outside of the IGLOO framework to emerge.
3) The approach allowed for the development of critical analysis to identify ideas and concepts that underpin themes, along with assumptions and meaning, and was a more appropriate method for the research question when compared with Interpretive Phenomenological Analysis (which has been described as lacking theoretical flexibility and substance) and Grounded Theory (which is a more complex process described as focusing more on sociological analysis rather than psychological). |

| | What challenges did you face in the design process and how did you overcome them? | I had to consider who to interview as part of the study. I considered interviewing stakeholders as well as those taking part in the intervention to gain a rounded picture of internal and external factors that affect programme efficacy. After some thought this didn't seem like the right approach because managers of those taking part in the study, and members of the Learning and Development team (the possible stakeholders) wouldn't necessarily have a detailed insight into the factors that affect the development of resilience for those taking part in the intervention.

I also considered inviting participants from multiple organisations to join the research programme. But due to the group coaching element, this design wouldn't have been appropriate. It would have taken time for participants to get to know each other, and they may not have built a good rapport effectively over the duration of the intervention. Also, if the group were from more than one organisation, it would take a significant amount of time to explain organisational contexts, which would take time away from the coaching. For these reasons, I decided to work with participants from one organisation.

Switching my epistemological stance from a positivist approach which underpinned my SLR towards a critical realism approach which aligns with the qualitative research question explored in my study was challenging. Although I have no problem utilising either approach as generally I take a pragmatist approach, shaping my stance depending on the research question, I had to remind myself that I didn't need to shape my research through a positivist lens (as this was the first time I've conducted qualitative research). |
|---|---|---|
| | How did this process differ from your expectations/plan? | This process unfolded as I expected, and my design plans didn't change. |
| | What were your key learnings from this stage? | It took some time to design an intervention process that aligned with the research question and an opportunity sample at an organisation I was due to work with. I learnt about balancing research outcomes I required with client demands, which took some consideration. Ultimately, I offered the client a more in-depth intervention than they were paying for to ensure I could capture the data required to conduct robust and valid research, which would help to address some of the research gaps outlined in my SLR. |
| **Research Study: Gathering data** | How did you go about gathering data and accessing participants? Why did you choose this route? | Before I got to the data gathering stage, I had to design the intervention deployed as part of my research. I couldn't use the intervention designs described in the five papers in my SLR, because the curriculum for each wasn't available to the public. So, I used an evidence-based curriculum developed by the Mayo Institute, which I could access. This was then adapted for virtual intervention delivery (which was required as we were in a pandemic). |

		I had the chance to use an opportunity sample with an organisation where I was due to conduct a resilience intervention for leaders. There was the chance to include multiple clients in this sample, but I decided to collect data in one organisation due to the group coaching element of the intervention design.
	What challenges did you face when gathering data/accessing participants and how did you overcome them?	I was lucky enough to have access to leaders that would make up two intervention groups, so I could randomly select those taking part. Those invited to take part were all senior leaders within a global function. All 11 participants in the intervention group chose to join the programme, but two dropped out mid-way through the intervention, most likely due to excessive workload. The hardest part of the process was getting consent forms back in time for participants to join the intervention. I just had to keep chasing for them.
	How did this process differ from your expectations/plan?	This process actually unfolded better than planned! I'm used to delivering resilience interventions for organisations, so I know the chances of all participants within a cohort completing a programme are low, especially as was the case in this instance, when there isn't a functional lead sponsoring the programme.
	What were your key learnings from this stage?	I learnt that it's best to leave extra time to gain agreement to take part in research at a large organisation, and to build in extra time to gather consent forms from participants.
	What would you do differently if you were going to begin this stage again, and why?	I don't think there is anything I could do differently. There is a certain amount of organisational bureaucracy I had to navigate to carry out the intervention and research, but I wouldn't be able to change this.
Research Study: Analysing data	How did you go about analysing your data? Why did you choose this route?	I chose to use a thematic analysis approach, this was based on research into qualitative research methods, and by reviewing published qualitative studies. I had to learn the process, as I hadn't conducted thematic analysis before. I chose to use an existing framework (IGLOO) to help shape the coding process as this framework has been used in wellbeing and return-to-work research and was appropriate for my research question. However, I wasn't restricted by this framework, and additional themes were constructed from the data.
	What challenges did you face when analysing your data and how did you overcome them?	It was challenging to learn each stage of the thematic analysis process as I was doing it, it took a long time to make progress. I had a huge amount of interview data to transcribe, familiarise myself with, and code, which took months. There wasn't anything I could do to speed up the process, I just had to work through each step slowly and thoroughly.

		It was hard not to get lost in the data, and to stay alert when reviewing transcripts, I had to do this in bite sized chunks otherwise my mind would wonder. I didn't enjoy reviewing transcripts in NVivo, it felt like a cumbersome and long process. Again, there was nothing I could do to change this, I just had to work through it. The coding process was easier, as I had the IGLOO framework to use as a guide, and I enjoyed pulling out codes and then constructing themes. I found this an enjoyable and easy process using NVivo. It was very easy to review the coding categories I created, and I later moved some of the themes around following a review with my supervisors.
	How did this process differ from your expectations/plan?	I had no idea what to expect, and no plan, I was learning the process as I did it.
	What were your key learnings from this stage?	I learnt I enjoyed the process of coding and creating themes, that was one of my favourite parts of the doctorate process, it felt like my data was coming alive. I also learnt I really don't like the process of editing transcripts, but that could be due to the volume I had to review.
	What would you do differently if you were going to begin this stage again, and why?	I would triple the time I allocated for the whole process; each stage took at least double the amount of time I expected.
Research Study: Writing up	What challenges did you face when writing up your study and how did you overcome them?	I thought the introduction wouldn't take too long at all, as I expected it to be based on the findings from my SLR. This wasn't the case at all, and I ended up doing lots of additional reading to write the introduction for my empirical research. I'm pleased I did this, and I enjoyed the process, but it pushed my timelines back. I do think this was important, as most of the papers I had read were around the time I ran the intervention, and the write up was a year later. This meant new research in the area of resilience had been published, and there was also more research focusing on effects of the pandemic in the workplace, which was relevant to my empirical research as the intervention had taken place mid-pandemic. I really enjoyed the process of writing up the results and discussion, I found this to be an easy and satisfying process, I think because of the amount of time the thematic analysis process took, I felt like I knew the data inside out. It was at times challenging deciding which examples to use, and mostly which to cut from the write up, but I didn't find this as hard as I was expecting to.
	How did this process differ from your expectations/plan?	The introduction section took a lot longer than I expected, but I was pleased with the result. The whole write-up process took double the time I expected, even though at this stage I was working on it full time and not taking on any client work until my thesis was complete.

	What were your key learnings from this stage?	I learnt that I really enjoy writing up my research, but it is a huge investment of time and progress is very slow at times (which I find very challenging, as I'm used to delivering at a fast pace!).
	What would you do differently if you were going to begin this stage again, and why?	I wouldn't change the process, the write-up of my empirical research is the only part of the doctorate programme I completely enjoyed.

Ethical considerations and management of boundaries	What ethical considerations did you make and why? Has this impacted your practice outside the doctorate? Was there anything that you would do differently next time? Looking forward to conducting to your research, is there anything that you need to keep front of mind or need support on?	The biggest ethical consideration was understanding whether I could conduct the interviews and run the intervention, and whether this would pose a conflict of interest. I was concerned that those taking part in the programme may not be honest in interviews with me because they may not feel like they can talk about any negatives (with regard to the intervention). However, as the interviews were focused on personal and contextual factors that impact the development of resilience for leaders taking part in an intervention (and not perceptions of the intervention itself), honesty didn't seem to be an issue. This is something I had to monitor though, and I questioned myself many times around whether participants were comfortable sharing their thoughts with me. Feedback suggests they were, but I would be naïve to not acknowledge this in both conducting research and writing it up.

Overall Doctoral Process	Reflecting on your doctorate, how do you feel you have developed (e.g. technical expertise, theoretical knowledge)?	The development I've been through over the last few years is astounding. I had no clue how to write an SLR and conduct and write-up qualitative empirical research, and I can now do all of those things with a level of competence (although of course I can always hone these skills and improve).

I don't think I'll ever conduct an SLR again, but I am so pleased I understand the process, and I can critically assess published SLRs now, which will inform my practice.

I've always been a bit scared of the qualitative research process (I've only conducted quantitative research in the past), but I really enjoyed the process of interviewing, coding, and creating themes (not transcribing). I would be confident carrying out thematic analysis again in the future. |
| | Can you see any changes in your practices and/or professional plan as a result of undertaking this doctorate and associated learnings? | I feel a lot more comfortable incorporating research into my practice. I always did this, but I didn't feel that I could critique the research, whereas now I think I could apply published research in a more appropriate way, e.g., I would be more interested in utilising findings from studies that have a strong quality assessment.

The process of writing up my empirical research has also highlighted just how important contextual factors are in developing and nurturing resilience for leaders taking part in |

		interventions. Previous research was alluding to this, but this is an explicit finding in my research. This will make me more confident in ensuring clients understand this, and don't just commission resilience interventions in response to a poor workplace culture and expect people to take complete ownership of their resilience without address the context in which employees work. There is a contextual and personal system at play that can support or hinder resilience, and I will be more comfortable in discussing this for those commissioning resilience interventions.
	What has been the most useful element of the process for you?	Most definitely conducting my own research and writing up the process. These are skills I plan to use again.
	What has been the most rewarding element of the process for you?	Writing up my empirical research, and seeing the data come to life. It's a topic I feel passionately about, and I believe my research extends knowledge in the area and can help support practitioners delivering resilience interventions. I also feel like we need to change the narrative around developing resilience – context may be as important as developing resilience skills (which maybe future research can explore).
	What has been the most challenging element of the process for you?	I really didn't enjoy the SLR process. I found it reductive at times, tedious and more subjective than I initially anticipated. I do however see the value in conducting and publishing SLRs, I just hope I never have to conduct one again.
	What has been the most frustrating element of the process for you?	Changing my research question at the start of the process was extremely frustrating, I almost gave up on the doctorate programme. Finding the time to work on my thesis was also really challenging, with a business to run and two small children. I had to pause working on my thesis for six months to write a book, and it was hard to get my head back into my research.
	What would you tell someone beginning this process? What are the key things they should know/avoid/prepare for?	Don't underestimate the work involved with producing a thesis. It is possible to achieve it alongside work and family commitments, but something will have to give. You need to be very structured with time management to achieve it all within three years.

Appendix 2: Quality assessment of papers included in SLR

Quality assessment of quantitative studies

	Abbott et al. (2009)	Grant et al. (2009)	Sherlock-Storey et al. (2013)	Brendel et al. (2016)	Reitz et al. (2020)
Evaluation design					
Same pre/post measures	✓	✓	✓	✓	✓
Random and appropriate assignment (selection methods described)					
All participants participated in pre and post measures					
Treatment and comparison conditions described					✓
Fidelity of delivery clear	✓	✓	✓	✓	✓
Control group provides counterfactual evidence	✓	✓		✓	✓
Longitudinal data measurement					
Sample					
Representative sample	✓	✓		✓	✓
Sample size large enough to test for impact	✓	✓		✓	✓
Clear processes to determine and report drop-out data					
Minimum 35% of participants completed pre and post measures; overall attrition not higher than 65%	✓	✓			
Baseline equivalence					
Contamination controlled					
Blind assignment					
Consistent and equivalent measurement	✓	✓			✓
Reported dropouts and differences between groups reported if attrition over 10%					
Assessed and reported overall and differential attrition					
Measures were appropriate for outcome and population	✓	✓	✓	✓	✓
Valid and reliable measures used	✓	✓	✓	✓	✓
Measurement independent of treatment	✓	✓	✓	✓	✓
Measures not just self-report	✓				✓
Researcher free of conflict of interest					
Analysis					
Analysis methods appropriate	✓	✓	✓	✓	✓
Missing data appropriately reported					
Consistent evidence					
Findings made explicit	✓	✓	✓	✓	✓
Evidence for and against researcher argument	✓	✓	✓		
Credibility of findings discussed					
Findings discussed in relation to original research question	✓	✓	✓	✓	✓
Study overall free of conflict of interest					
Total score	15	14	9	11	14

Blank cells refer to areas where this field has not been addressed, or the researchers cannot confirm whether this field has been addressed, or the field isn't applicable to the study.

Quality assessment of qualitative studies

	Grant et al. (2009)
Is the qualitative methodology appropriate?	
Search seeks to interpret or illuminate the actions and/or subjective experiences of research participants	✓
Qualitative research is the right method for addressing research goal	✓
Is the research design appropriate for addressing the aims of research?	
Researcher has justified the research design	✓
Is there a clear statement of findings?	
Findings are made explicit	✓
Discussion of evidence for and against researcher arguments	
Credibility of findings discussed (e.g., triangulation, respondent validation, more than one analyst)	
Findings discussed in relation to original research question	
Was the data collected in a way that addressed the research issue?	
Setting for data collection is justified	✓
Data collection methods were clear (e.g., focus group, semi-structured interview)	✓
Researcher justified data collection methods	✓
Researcher has made the process of data collection explicit (e.g., interview method, topic guide)	✓
If methods were modified in the study, the researcher has explained reasoning	
Form of data is clear (e.g., video material, tape recording, notes)	✓
Was the recruitment strategy appropriate to the aims of research?	
Researcher has explained how participants were selected	✓
Explained why participants selected were the most appropriate to provide access to the knowledge sought by the study	✓
Discussion around recruitment and potential bias	✓
Selection of cases/sampling strategy theoretically justified	✓
Was the data analysis sufficiently rigorous?	
There is an in-depth description of the analysis process	
It is clear how themes were derived from thematic analysis data	✓
Researcher explains how the data presented were selected from original sample to demonstrate analysis process	✓
Sufficient data presented to support findings	✓
Findings grounded in/ supported by data	
Good breadth and/ or depth achieved in findings	
Contradictory data taken into account	
Data appropriately referenced (i.e., attributions to anonymised respondents)	
Has the relationship between researcher and participants been adequately considered?	
The researcher critically examined their own role, potential bias and influence when forming questions and during intervention	
Researcher responded to events during the study and have considered implications of any changes in research design	
Have ethical issues been taken into consideration?	
Sufficient details of how research was explained to participants to assess whether ethical standards were maintained	
Researcher discussed issues raised by the study (e.g., informed consent, confidentiality, data handling)	
Issues such as informed consent and procedures to protect anonymity have been adequately discussed	
Consequences of research have been considered, (i.e., raising expectations, changing behaviour)	
Approval sought from an ethics committee	
Contribution of the research to wellbeing and impact questions	
The study makes a contribution to existing knowledge or understanding	✓
Total score	17

Blank cells refer to areas where this field has not been addressed, or the researchers cannot confirm whether this field has been addressed, or the field isn't applicable to the study.

Appendix 3: Participant information sheet for empirical study

Research: Evaluating the role of contextual factors in the development of resilience in leaders.

I would like to invite you to participate in this research project, which is part of my Professional Doctorate in Organisational Psychology degree at Birkbeck, University of London. This project has received ethical approval. To make an informed decision on whether you want to take part in this study, please take a few minutes to read this information sheet.

Who is conducting this research?

The research is conducted by Gemma Roberts, under the guidance of supervisors Rachel Lewis and Jo Yarker, both from Birkbeck, University of London.

What is the purpose of the study?

The aim of the study is to understand the different factors that can impact how effective a resilience coaching programme is at enhancing resilience in leaders. Research tells us that factors such as leadership support, team support and business processes can impact the effectiveness of a coaching programme, but as yet we don't know to what extent.

Why have I been invited to take part?

I am inviting leaders who are interested in building their resilience and resilience within their teams to join this study.

What are the procedures of taking part?

If you decide to take part, you will be asked to join a resilience programme for leaders that has been designed to enhance resilience.

Programme overview can be found here:
https://resilienceedge.com/resilient-leaders/
Password: ResilientLeader/1

What are my participation rights?

Participation in this research guarantees the right to withdraw, to ask questions about how your data will be handled and about the study itself, the right to refuse to answer questions, the right to have video and voice recording equipment to be turned-off at any time during one-to-one interviews, the right to not engage with or leave group coaching

sessions at any time (which aren't recorded), and to be given access to a summary of the findings. You also have the right to confidentiality and anonymity as part of the interview sessions, and you will agree to protect the confidentiality and anonymity of other participants in the group coaching sessions, and they will agree the same as part of the consent to take part in the research.

What if I want to withdraw my information?

If you wish to withdraw responses or any personal data gathered during the study, you may do this without any consequences. You can ask for your data to be removed up until the point of analysis, which will take place on approximately 1st June 2021. If you would like to withdraw your data, please contact Gemma Roberts (gemma@resilienceedge.com).

What will happen to my responses to the study?

Data collected in this study will be analysed and used for the research student thesis. Data may also be used for academic publications and no identifying information would be released.

The data yielded from this study will be used in as part of a doctoral thesis and will be accessible by the general public. Any direct quotes that are used in this thesis will be anonymous and will not allow either the individual or organisation involved to be identified. Data yielded from this study may also be used in journal publications, reports, whitepapers, articles and books, but again, anonymity for the individual and organisation will remain protected.

Interview recordings will be deleted 180 days after the completion of research, no one will have access to these recordings other than the researcher and research supervisors, and all information within the recordings will be treated as strictly confidential.

Will my responses and information be kept confidential?

All information will be treated with the strictest confidence throughout the study. All information will be kept in secure folders on a password protected computer, or a secure filing cabinet. Access to such information will only be allowed to the researcher and researcher supervisor. During the marking process, external examiners of my project may also have access.

What are the possible risks to taking part?

The intention of this research is to identify your perspective as a leader on the factors such as your leadership support system, support from your team and business processes that impact the effectiveness of a resilience coaching programme. During the interviews, you will be asked questions about your resilience levels and experiences. Although not intended, if this process causes any psychological discomfort, it is recommended that you contact one of two organisations that can offer professional help.

Mind

Webiste: https://www.mind.org.uk/

Telpehone: 0300 123 3393

Text: 86463

Email: info@mind.org.uk

Samaritans

Website: https://www.samaritans.org/

Telephone: 116123 (free from any phone)

Email: jo@samaritans.org

Any further questions?

If you have any questions or require more information about this study before or during your participation, please contact either of:

Gemma Roberts

gemma@resilienceedge.com

Research Student

Rachel Lewis or Jo Yarker

op-pdop@bbk.ac.uk

Research Supervisors,

Department of Organizational Psychology,

Birkbeck, University of London,

Clore Management Building,

Malet Street, Bloomsbury,

London.

WC1E 7HX

For information about Birkbeck's data protection policy please visit: http://www.bbk.ac.uk/about-us/policies/privacy#7
If you have concerns about this study, please contact the School's Ethics Officer at: BEI-ethics@bbk.ac.uk.

School Ethics Officer

School of Business, Economics and Informatics

Birkbeck, University of London

London WC1E 7HX

You also have the right to submit a complaint to the Information Commissioner's Office https://ico.org.uk/

Appendix 4: Consent form used for empirical study

Research: Evaluating the role of contextual factors in the development of resilience in leaders.

The aim of the study is to understand the different factors that can impact how effective a resilience coaching programme is at enhancing resilience in leaders. Research tells us that factors such as leadership support, team support and business processes can impact the effectiveness of a resilience coaching programme, but as yet we don't know to what extent.

Taking part in this research will help to deepen academic understanding of how resilience is developed in leaders and their teams, and how they develop their capacity to deal with change and challenges in the most effective way.

The research involves:

- Watching three online training modules (all less than 30 minutes long), in your own time before the group coaching sessions start.
- Joining three group coaching sessions with the other leaders taking part in the programme (90 minutes long) on 17th March, 8th April and 29th April 2021.
- One-to-one reflection and coaching embedding sessions (60 minutes long) with the researcher at four time points around group coaching sessions: before the programme, during the programme, immediately after coaching finishes and two months after the programme has finished. You will be able to book dates and times convenient for you to attend these interview sessions.

ONE COPY TO BE RETAINED FOR PARTICIPANT, ONE COPY SENT TO RESEARCHER (THIS DOCUMENT CAN BE SCANNED OR PHOTOGRAPHED).

Please read the following items and tick the appropriate boxes to indicate whether you agree to take part in this study. Please email a scanned or photographed copy of the completed form back to: gemma@resilienceedge.com. Please also retain a copy for your own records.

I have read the information sheet in full, and I understand the purpose of this study is to learn about the contextual factors in the development of resilience in leaders.

Questions I have about the study have been answered and I understand I may ask further questions at any time.

I understand what is involved in participating, that it is voluntary, and that I may withdraw under conditions set out in the information sheet, and up until the data analysis point, due to be 1st June 2021.

I agree to take part in this study under the conditions set out in the information sheet.

I agree to the interviews being recorded (full video and audio recording).

I understand that I have the right to ask for the video and audio tape to be turned off at any time during the interviews.

I understand the data will be transcribed word-by-word by Gemma Roberts (the researcher).

I understand the researcher will take every precaution to protect my identity.

I understand the results may be used for academic publications, such as dissertation, thesis or journal articles, and may be included in future conference presentations, publications, reports, whitepapers, articles and books.

I understand direct quotes will not be associated with individual names (this information will be anonymous) in the final published thesis.

I agree to keep confidential all information I hear during the group coaching sessions, and other participant identities.

Name _____

Signed _____   Dated: _____

Appendix 5: Questions used as a guide in semi-structured interviews

Level	Interview 1 (pre-intervention)	Interview 2 (during intervention)	Interview 3 (post-intervention)	Interview 4 (post-intervention)
Individual Work-specific and individual cognitive, affective and behavioural factors.	What personal factors do you see as being essential for programme success? What personal factors would you imagine could hinder programme success?	What individual factors are helping you on the programme? What individual factors are hindering you on the programme?	What individual factors helped you on the programme? What individual factors hindered you on the programme?	What individual factors helped to build your resilience? What individual factors contributed to hindering your resilience? Did this change over time?
Group Colleague support, friends and family frequency of contact, support.	What colleague or family support do you think will enhance programme success? What colleague or family support do you think will hinder programme success?	What support factors are helping you on the programme? What support factors are hindering you on the programme?	What support factors helped you on the programme? What support factors hindered you on the programme?	What support factors helped to build your resilience? What support factors contributed to hindering your resilience? Did this change over time?
Leader Line managers' knowledge skills and attitudes towards resilience, line manager behaviour, manager support.	What leadership factors do you think will enhance programme success? What leadership factors do you think will hinder programme success?	What leadership factors are helping you on the programme? What leadership factors are hindering you on the programme?	What leadership factors helped you on the programme? What leadership factors hindered you on the programme?	What leadership factors helped to build your resilience? What leadership factors contributed to hindering your resilience? Did this change over time?

Organisation Human Resource practices and policies, job design, occupational health services.	What organisational factors do you think will enhance programme success? What organisational factors do you think will hinder programme success?	What organisational factors are helping you on the programme? What organisational factors are hindering you on the programme?	What organisational factors helped you on the programme? What organisational factors hindered you on the programme?	What organisational factors helped to build your resilience? What organisational factors contributed to hindering your resilience? Did this change over time?
Overarching / social context Legislation and social welfare policy, social environment.	What social factors do you think will enhance programme success? What social factors do you think will hinder programme success?	What social factors are helping you on the programme? What social factors are hindering you on the programme?	What social factors helped you on the programme? What social factors hindered you on the programme?	What social factors helped to build your resilience? What social factors contributed to hindering your resilience? Did this change over time?
Misc.				To what extent was the programme helpful in enhancing your resilience? What were the main factors that contributed to you enhancing your resilience throughout the programme? What factors could have contributed to

				enhancing your resilience further?