

An Investigation Into the Relationship Between Resilience and Thriving at Work

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**submitted to the University of Hertfordshire in partial fulfilment of the
requirement of the degree of PhD with Industry Experience**

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Declaration

I declare that this dissertation has been composed solely by myself and not submitted, in whole or in part, for any previous application for a degree.

Due acknowledgement has been made throughout the text to all materials used and references provided.

A very brief summary of the research described Chapters 2 to 6 in this dissertation was presented (via a presentation and a poster) at the International Positive Psychology Association World Congress in July 2023. Co-authors Dr Colleen Addicott, Dr Roberto Gutierrez and Dr Belinda Board were credited. The slides used in the presentation and the poster are given in Appendix U.

This research is my original work towards the degree of Doctor of Philosophy.

Signature: Rosemary Hancock

Date: 18th October 2024

Abstract

Interest in resilience at work has increased following COVID-19 and its aftermath, to understand how people can cope with and recover from adversity. Thriving at work, defined as the experience of both growth and vitality at work, is also important to organisations interested in increasing morale and productivity. Some research conflates these two concepts, with definitions of resilience that include growth after adversity. This programme of research was designed to explore if and how resilience and thriving at work are different, related or aspects of the same construct. Understanding the relationship between resilience and thriving at work could help organisations and their employees prioritise and focus interventions to achieve their desired outcomes. This research focused on desk-based workers, as investigation of resilience at work is often limited to occupations with inherent exposure to traumatic situations.

The initial literature review identified a wide variety of definitions and measures for both resilience and thriving at work, with similarities in terminology, and overlaps with well-being literature. Resilience research generally focuses on individuals and their ability to recover from adversity. The thriving at work literature highlights the importance of workplace culture and community to support individuals in experiencing thriving. There is little research into whether or how resilience and thriving at work are related, and what exists is contradictory.

The first study used an online questionnaire (n=310) to demonstrate a moderate relationship ($r=.37, p<.01$) between resilience and thriving at work. A strong correlation ($r=.59, p<.01$) was also found between thriving at work and wellbeing.

A review of meta-analyses and structured reviews of resilience and thriving at work (2011-2022) was conducted to identify common antecedents and outcomes, to detect overlaps and differences between resilience and thriving at work. Common outcomes included both physical and psychological health, and work-related outcomes such as task performance, work engagement, job satisfaction, career satisfaction and organisational commitment.

A second questionnaire study (n=288) was then conducted to explore any differences in the impact of resilience and thriving at work on common outcomes. Partial correlations showed strong relationships between thriving at work and four key work-related outcomes: work engagement ($r=.86, p<.01$), job satisfaction ($r=.61, p<.01$), career satisfaction ($r=.74, p<.01$) and organisational commitment ($r=.65, p<.01$) when controlling for resilience.

However, when controlling for thriving at work, there were no correlations between resilience and those four key work-related outcomes ($r=.03$, $r=.09$, $r=-.03$, and $r=-.07$). As this study had used a general resilience scale and a thriving at work scale, it was replicated ($n=284$) with a resilience at work scale and a general thriving scale. Similar results were found to the original study, whether using a measure specifically designed for a work context or a more general measure. These studies indicated that resilience and thriving at work are distinct but related constructs, having different impacts on key work-related common outcomes. All other variables being equal, resilience without thriving is not related to work engagement, job satisfaction, career satisfaction and organisational commitment.

Study three was designed to clarify how resilience and thriving at work might be related. Semi-structured interviews ($n=16$) were used to explore critical incidents where participants felt they had been resilient (or not) and thriving (or not) at work. Reflexive thematic analysis suggested an indirect relationship: resilience at work builds new skills and attitudes, increasing clarity and supporting active choices that then result in thriving at work in a supportive environment. Four themes resulted from the analysis: (a) resilience develops roots that enable thriving; (b) thriving is bigger than the individual; (c) thriving spirals upwards through active choices in a supportive environment; and (d) you can be your own worst enemy or biggest supporter. A framework diagram was developed illustrating the relationship between resilience and thriving at work along with personal, relationship and workplace supportive and inhibiting factors identified in the interviews.

Many of the factors in the above framework have been investigated in the existing literature for resilience and thriving at work, but *prioritising relationships*, *sense of coherence* and *authenticity at work* have not. Study four used a questionnaire ($n=241$) and structural equation modelling to confirm that these factors were mediators of the relationship between resilience and thriving at work. Prioritising relationships showed a positive correlation with thriving at work but a negative correlation with resilience at work, while the other two factors had positive relationships with both.

The final study explored the utility of the above findings in the real world. It investigated whether a coaching intervention focused on authenticity at work and prioritising relationships might increase an individual's thriving at work. A group of participants ($n=8$) completed a questionnaire and received a written report on their resilience, while a second group ($n=10$) also received a coaching session focused on the two factors above. Kirkpatrick (1996)'s framework was used to evaluate the intervention. All participants found the study

interesting and thought-provoking (reaction). All participants felt they had learned a lot about resilience and thriving at work, and coached participants identified ways in which prioritising their relationships with others and being more authentic might impact their thriving at work (learning). All participants reported planning actions, with coached participants reporting more specific actions and more actions taken (behaviour). Only the coached participants showed an increase in wellbeing and thriving at work (results). The qualitative feedback from coached participants added support for the usefulness and impact of a focused coaching intervention. While only an initial pilot, the study laid the groundwork for future studies and interventions.

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I could not have asked for a better sponsor than Peoplewise Ltd. Without their sponsorship I would never have even contemplated doing this research. As CEO and Chief Psychologist, Dr Belinda Board welcomed me into her company, supported me as the PhD changed direction, generously let me use the PRP psychometric as part of my intervention, and helped me flesh out my ideas for this research until it became a reality.

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Chapter 1

Introduction to the Research, its Context and its Objectives

This research investigated the relationship between resilience and thriving at work for desk-based workers, with the aim of understanding how such individuals can thrive at work, not just survive. Interest in resilience at work, defined as “the process by which individuals are able to positively adapt to substantial difficulties, adversity, or hardship.” (Fisher et al., 2019, p. 592) has grown through the COVID-19 pandemic and its aftermath. Thriving at work, defined as “the psychological state in which individuals experience both a sense of vitality and a sense of learning at work” (Spreitzer et al., 2005), where vitality is “a positive feeling of aliveness and energy” (Ryan & Frederick, 1997, p. 529), is an aspirational target for most people and important for organisations interested in increasing morale and productivity. Some research conflates these two constructs, where growth after adversity is included as part of the definition of resilience. This research set out to find out if and how resilience and thriving at work were different, related or aspects of the same construct, and what potential benefits they each resulted in for individuals and organisations. It focused on desk-based workers, as investigation of resilience at work is often limited to occupations with inherent exposure to traumatic situations. The overall objective was to provide evidence-based suggestions to increase thriving at work for desk-based workers and their organisations.

The research question for this PhD was “How are resilience and thriving at work related for desk-based workers?”. This dissertation documents the investigations that took place to explore this question. It will argue that:

- Both thriving and resilience at work provide benefits for organisations and employees, and can be developed.
- Thriving at work is more strongly related than resilience at work to four key work-related outcomes: work engagement, job satisfaction, career satisfaction and organisational commitment.
- Resilience and thriving at work are distinct constructs, related but not directly: the relationship is complex and involves many factors, illustrated in the framework diagram developed in this research (Figure 4 on page 119).
- Short interventions based on the framework from this research can increase thriving at work.

1.1 Context and Significance of This Research

The resilience and thriving at work literature is extensive but often contradictory and confusing, as documented by many researchers (e.g., Kleine et al., 2023; J. J. W. Liu et al., 2020). A wide variety of definitions and measures of both concepts have been developed (Brown et al., 2017; Fisher et al., 2019; Goh et al., 2022; Hartmann et al., 2020; Kleine et al., 2019). Some research conflates resilience and thriving at work, incorporating the idea of growth after adversity (part of the definition of thriving at work) into the definition of resilience (See e.g., Frazier et al., 2009; Kuntz et al., 2017).

The literature identifies a large number of factors that have been shown to support, inhibit or result from resilience and thriving at work, some overlapping across both, and many potential interventions for both individuals and organisations (Goh et al., 2022; Hartmann et al., 2020; Kleine et al., 2019; J. J. W. Liu et al., 2020; Porath et al., 2022; Spreitzer et al., 2012). However, there is almost no information on if or how resilience and thriving at work might be connected, nor if specific factors are more strongly related to one or the other.

This research project started in September 2020, in the middle of the COVID-19 pandemic. The disruption from the COVID-19 pandemic resulted in adversities of multiple kinds for everyone across the world (Ourworldindata.com, n.d.). It impacted all aspects of everyone's lives, such as lockdowns preventing access to school, work and/or social activities, illnesses or deaths of family members or friends, needing special arrangements or equipment at work, and working from home at the same time as children were not in school. Organisations were also disrupted in multiple ways, such as hospitality businesses being required to close down completely, many organisations needing to enable staff to work from home or provide special equipment for workers such as Personal Protective Equipment, screens between desks, disinfectant systems and enhanced cleaning, and the inability to have face-to-face meetings with clients or amongst work teams. Suddenly everyone was dealing with multiple adversities all at once. In response to the rising pressure, psychologists turned their attention to how to help people's mental health and wellbeing by publishing summaries of existing resilience and thriving research and suggesting potentially beneficial interventions for individuals and organisations (Bonanno, 2020; Gruber et al., 2021; Porath & Porath, 2020; Rashid & McGrath, 2020; Walsh, 2020; Waters, Algoe, et al., 2021; Waters, Cameron, et al., 2021; Zarowsky & Rashid, 2023).

The researcher is an executive and career development coach and wellbeing consultant. In her professional experience over several decades, resilience and thriving at work were of great interest to both individuals and organisations, with expectations of beneficial outcomes. This was despite differing perspectives on what resilience and thriving at work might mean in practice. COVID-19 and its impact on both organisations and individuals exacerbated the interest in both resilience and thriving at work. There seemed to be a need for clear guidance on how to allocate scarce resources (time and money) to maximise the expected benefits for both individuals and organisations. However, the confusion and disagreement in the academic literature did not provide a clear evidence base, even about the definitions of resilience and thriving, let alone how best to build them, and the relative impact of each.

The workplace was chosen as the environment for study for two reasons. Firstly, because the workplace is the focus of the researcher's professional work and personal experience. Secondly, because many people spend so much of their lives at work. The latest statistics estimate that between 55% and 60% of the world's population is employed (Statista, 2024). In the UK people spend on average just under 37 hours a week at work (Office for National Statistics, 2024). That is nearly half of our waking hours during the week (assuming 8 hours per day of sleep) and does not count time spent travelling to and from work. Improving people's lives at work would not only have benefits at work, both to the individual and the organisation, but could have a knock-on effect across their entire lives (Li-Peng Chew, 2017; Peters et al., 2021; von Allmen et al., 2023). It would therefore be helpful to have evidence-based information to support both organisations and individuals in being resilient and thriving at work, to benefit everyone.

Desk-based workers have rarely been the subject of resilience research. The majority of resilience at work research (see section 2.2.4) focuses on people in 'high-risk' occupations: "work that either places people in first-hand contact with traumatic events, in second-hand contact with the people who were at such an event, or where routine exposure to adverse stressors occurs." (Brassington & Lomas, 2021). Such occupations include fire-fighters, the military, police, emergency room doctors and nurses, the police, first responders etc. and those who support them. However, less than 10% of the UK working population have that kind of job (Office for National Statistics, 2020). Desk-based workers were experiencing major changes in their work environment due to COVID-19, including challenges such as working from home (possibly with children around), lack of contact with colleagues, and

having to hold meetings virtually not face-to-face, in addition to the general adversities faced by everyone. The impact of the COVID-19 pandemic and its aftermath on desk-based workers was a good opportunity to explore the applicability of existing resilience and thriving at work research to this population.

Understanding more about how resilience and thriving at work are related for desk-based workers would lead to clearer evidence to help organisations and their employees prioritise interventions to achieve their desired outcomes.

1.2 Research Aims and Research Question

The associated aims of this research were threefold:

Firstly, to understand more about resilience and thriving at work, and if and how they are linked. Questions relating to this aim included: How do people thrive at work, and what does that look like? Why do some people cope effectively with adversity, some people thrive and some neither? How does the organisation and its culture influence how individuals thrive at work? Is thriving related to how people cope with adversity?

Secondly, to extend the research into resilience and thriving at work to desk-based workers. As mentioned above, the COVID-19 pandemic had resulted in huge changes for such workers, who are under-represented in the research literature to date. Questions related to this aim included: How applicable is the existing research (particularly resilience research conducted on people in high-risk occupations) to desk-based workers? How do desk-based workers experience resilience and thriving at work?

Thirdly, to clarify how the research could be applied in practical ways to benefit both individuals and organisations. Questions related to this aim included: What interventions could be used to help people not just survive but thrive at work? What benefits might be realised to both employees and employers if more people were thriving?

The above context and aims led to the overall research question: “How are resilience and thriving at work related for desk-based workers?”.

1.3 Dissertation Structure

The dissertation documents the programme of research, and its implications, as follows:

Chapter 2 reviews the existing research into resilience and thriving at work and how they are related.

Chapter 3 summarises the researcher's philosophy and worldview and resulting decisions on the research strategy and design.

Details of individual studies follow:

Chapter 4 describes the research to clarify the largest unknown: if and how far resilience and thriving at work are related for desk-based workers post-COVID. Two pieces of work were performed. Study 1 was a correlational survey study (n=310) to quantitatively assess the level of relationship between resilience and thriving at work. This was followed by a review of recent meta-analyses and structured reviews on resilience and thriving at work, to clarify overlaps between identified antecedents and outcomes of each concept. There are many factors involved with both resilience and thriving at work, including multiple common factors influencing and resulting from both. The work in this chapter resulted in the conclusion that resilience and thriving at work are distinct constructs but overlap.

Chapter 5 describes Study 2, another correlational questionnaire study, designed to clarify whether resilience and thriving at work have similar levels of impact on common outcomes identified in the previous work. The results showed that thriving at work has a stronger relationship than resilience with four key work-related outcomes: work engagement, job satisfaction, career satisfaction and organisational commitment. All other variables being equal, resilience without thriving is not related to work engagement, job satisfaction, career satisfaction and organisational commitment.

Chapter 6 describes Study 3, a qualitative exploration of how resilience and thriving at work were experienced by desk-based workers. It was designed to clarify how resilience and thriving at work might be related for such workers. The results showed that resilience and thriving at work are distinct and related indirectly. The relationship is complex, involving multiple factors. A framework diagram was created to illustrate the relationship between resilience and thriving at work and related factors.

Chapter 7 describes Study 4, which investigated three factors: prioritising relationships with others, sense of coherence and authenticity at work, which had been identified in the previous study as potential mediators between resilience and thriving at work, but had not been previously researched. This questionnaire study used structural equation modelling to confirm that all three factors were mediators in the relationship between resilience and thriving at work, albeit each with exceedingly small impact.

Chapter 8 describes Study 5, which investigated the utility of a coaching intervention focused on authenticity at work and prioritising relationships with others in increasing thriving at work. The results of the study, while only an initial pilot demonstration, illustrated that such an intervention could be successful in increasing thriving at work, and laid the groundwork for potential future studies and interventions.

Insights from the whole programme of research are discussed in the concluding chapter, along with suggestions for future research and practical applications for individuals and organisations. Reflections from the researcher follow, bringing the dissertation to a close.

1.4 Summary

This research into the relationship between resilience and thriving at work for desk-based workers was designed to provide a strong academic foundation for work with organisations and individuals to identify how they could best achieve desired outcomes such as physical and psychological health, task performance, engagement, job and career satisfaction and organisational commitment.

This programme of research aimed to give a clearer understanding of what is meant by resilience and thriving at work, clarify the similarities and differences in how they are beneficial to both individuals and organisations, explore how they are experienced in real life, define if and how they are related, and illustrate interventions for both individuals and organisations to reap the benefits of both resilience and thriving at work.

The next chapter reviews and summarises the existing research on resilience and thriving at work to show what is currently known. It highlights the gaps in the literature that this PhD research goes on to address.

Chapter 2

Existing Research on Resilience and Thriving at Work

This chapter introduces and summarises the main findings from research into resilience and thriving at work, the concepts on which this PhD focuses. It draws from both general psychological and organisational literature. It highlights what is already known and where there is still confusion or lack of clarity across both concepts. It concludes with a summary of the gaps this PhD aimed to fill, and the resulting research question.

In recent years there has been a great deal of research on both resilience and thriving, both generally and at work. Since 2017, there have been six published structured literature reviews or meta-analyses specifically focused on thriving at work and another on thriving in general (Abid & Contreras, 2022; Goh et al., 2022; Kleine et al., 2019; D. Liu et al., 2021; Nekooee et al., 2020; Shahid et al., 2021; Sorgente et al., 2021). In the same timeframe, there have also been 20+ published reviews on resilience and resilience at work. (e.g., Hartmann et al., 2020; Helmreich et al., 2017; Joyce et al., 2018; J. J. W. Liu et al., 2020, 2022; Masten & Barnes, 2018; Métais et al., 2022; Ungar, 2019).

However, there is considerable variation and lack of clarity or consensus in the literature around the definition, theory and measurement of the concepts of resilience and thriving. There are multiple definitions, theories, models and measures in use, and often researchers spend little time justifying which construction they are using. Many researchers have remarked on this, for example “One thing everyone agrees on is the lack of a common definition of resilience. Indeed, it is not unusual to read several different definitions within the same book or article.” (Cooper et al., 2013, p. 14) and “There is no current consensus on operational definitions of resilience. Instead, researchers often debate the optimal approach to understanding resilience, while continuing to explore ways to enhance and/or promote its qualities in various populations.” (J. J. W. Liu et al., 2020, p. 1) and “The topic of thriving has become popular with scholars, resulting in a divergent body of literature and a lack of consensus on the key processes that underpin the construct.” (Brown et al., 2017, p. 167)

There is also considerable overlap in definitions of resilience and thriving, not only with each other, but also with other related concepts including well-being and flourishing (J. J. W. Liu et al., 2020; Spreitzer et al., 2005). The impacts of resilience and thriving at work on both individuals and organisations also seem to be similar. This makes defining the

concepts and clarifying the relationship between thriving and resilience at work even more challenging. This chapter introduces the literature, and the discussion continues in Chapter 4.

2.1 Thriving and Thriving at Work

2.1.1 History, Definitions and Models of Thriving

There are multiple different definitions, conceptions, theories and operationalisations of thriving in the literature, all describing it as a positive state or process (Brown et al., 2017). Bundick et al. (2010) remark that “the question is not whether it is a good thing to thrive throughout life, but rather what exactly it means for a person to thrive.” (p. 2).

The phrase “failure to thrive” has been used for over a century in both medicine and psychology (Bundick et al., 2010). Initially it referred to infants who were not growing or developing according to expectations, but subsequently its use has broadened, particularly referring to older adults withdrawing from life and struggling with depression and daily activities (Bundick et al., 2010). More recently with the growth of positive psychology this deficit-centred perspective has been overtaken with a strengths-based focus (Seligman, 1998; Seligman & Csikszentmihalyi, 2000). Researchers are now determined to consider how the opposite of “failing to thrive” might be defined and achieved in many different areas. This turn to the positive with regard to thriving is now seen in many aspects of psychology, including developmental psychology (e.g., Bundick et al., 2010; Haight et al., 2002), positive psychology (e.g., Brown et al., 2017; Niemiec, 2020; Su et al., 2014) and organisational psychology (e.g., Bakker et al., 2010; Sarkar & Fletcher, 2014; Spreitzer et al., 2005).

Researchers in different domains have advanced different theories of thriving (Brown et al., 2017). This variety of perspectives has led to confusion on conceptualisation, as well as disagreement as to whether thriving is a state, a process or both. In developmental psychology, thriving is often conceptualised as a process of development and growth, such as Bundick et al. (2010)’s conclusion that “Thriving refers to a dynamic and purposeful process of individual \longleftrightarrow context interactions over time, through which the person and his/her environment are mutually enhanced.” (p. 18). In community psychology, Prilleltensky (2012) suggests that wellbeing is dependent on justice within and between people, organisations and communities, and that thriving is the peak experience of this wellbeing. He comments “By thriving I mean (a) the process of striving to achieve full potential, and (b) the state of being fulfilled” (p.12). In social psychology, Blankenship (1998) suggests that thriving is largely dictated by social position, and that it can happen both in response to adversity or in daily

life. Positive psychologists often consider thriving to be synonymous with a high level of wellbeing, such as Su et al. (2014)'s definition of thriving as "the state of positive functioning at its fullest range—mentally, physically, and socially" (p. 256). Organisational psychology theories of thriving tend to assume thriving involves accomplishment or achievement, such as Bakker et al. (2010)'s suggestion that "employees thrive on high job demands, if a sufficient amount of job resources is available" (p. 13), Sarkar and Fletcher (2014)'s focus on high achievers in their study of what it takes to thrive and Kleine et al. (2019)'s comment that "thriving is typically conceptualized as a dynamic process of adaptation to physical, psychological, or social adversity, leading to positive outcomes such as personal growth and enhanced functioning" (p. 973). This proliferation of different viewpoints is highlighted by Brown et al. (2017), who in their conceptual debate and review of the literature found thirteen different definitions of thriving between 1995 and 2015.

There is also confusion over whether adversity is required before someone can thrive. Many researchers suggest that thriving can occur either with or without a major adversity, for example as part of daily life or following a life opportunity rather than an adversity (Blankenship, 1998; Brown et al., 2017; Sarkar & Fletcher, 2014; Spreitzer et al., 2005). However, Carver (1998) incorporated the requirement for an adversity into his definition of thriving. He suggested that thriving is one of four possible consequences after adversity, where someone does "not merely return to the previous level of functioning but may surpass it in some manner" (p. 246). This idea continues in the growing body of research suggesting that even the most traumatic events can result in some positive outcomes. For example, Tedeschi and Calhoun developed the post-traumatic growth model in the mid-1990s based on their clinical work with survivors of trauma (Tedeschi et al., 2018; Tedeschi & Calhoun, 1996, 2004). They identify five areas where growth may occur: relationships with others, new possibilities, personal strength, spiritual/existential beliefs and appreciation of life. Research into stress related growth (Boals & Schuler, 2018; Orosz et al., 2020; C. L. Park et al., 1996; C. L. Park & Fenster, 2004; C. L. Park & Lechner, 2014) and benefit finding (S. T. Cheng et al., 2017; Helgeson et al., 2006; Rosenberg et al., 2019) also supports the idea that positive outcomes can be achieved despite adversity and challenge, whether traumatic or not, although there is controversy over whether actual growth is achieved (Frazier et al., 2009). It is also unclear whether the growth following adversity outlined above is the same as thriving (Brown et al., 2017).

Despite these points of confusion, there are some common elements across the different perspectives. The main points of agreement are that thriving is a positive state or process that is highly context-dependent, and involves growth or development alongside positive emotions, wellbeing and some element of performance. As a state or process, thriving is changeable, and the research suggests that it can be deliberately targeted for development.

2.1.2 Thriving at Work

Thriving at work was first considered in detail by Spreitzer et al. (2005), who developed a socially-embedded theoretical model of thriving at work by drawing on the general thriving literature outlined above as well as social-cognitive, positive organisational scholarship and organisational psychology. Their model emphasises the importance of both the context and the individual's deliberate behaviour in sustaining thriving at work. They define thriving as "the psychological state in which individuals experience both a sense of vitality and a sense of learning at work" (p. 538), where vitality is "a positive feeling of aliveness and energy" (Ryan & Frederick, 1997, p. 529). They suggest that thriving occurs when a supportive work environment (organisational context and personal and relational resources) facilitates agentic (active and purposeful) work behaviours, which both support thriving and produce more resources. Those resources then encourage more agentic work behaviours, which in turn support further thriving, in an upward spiral they describe as "the engine of thriving" (p. 537). This upward spiral is related to that proposed by Fredrickson in her broaden-and-build theory of positive emotions (Fredrickson, 2004; Fredrickson & Joiner, 2018), where the experience of positive emotions supports individuals to both broaden their focus and mindset and build beneficial psychological and behavioural resources, which in turn support more positive emotions.

In developing their theoretical model of thriving at work, Spreitzer et al. (2005) turned to Self Determination Theory (SDT) (Ryan & Deci, 2000, 2022) to identify aspects of the organisational context that might support thriving. SDT suggests that there are three basic psychological needs that must be satisfied for people to foster their own growth and wellbeing: competence (feeling capable and effective), autonomy (a feeling of having choice and being in control of one's own behaviour) and relatedness (feeling connected to others). Based on SDT, Spreitzer et al. suggested that decision-making discretion (increases feelings of autonomy), broad information sharing (increases understanding and hence feelings of competence) and a climate of trust and respect (increases relatedness) would support agentic

work behaviours that in turn support thriving. The three agentic behaviours they identified as leading to thriving include: a focus on tasks, exploration (of innovative ideas, strategies and ways of working) and heedful relating (focusing on working collaboratively and effectively with others). The resources they suggested were fostered through these agentic behaviours include knowledge, positive meaning, positive emotions and relational resources such as better relationships with co-workers. These resources in turn support more of the proposed agentic behaviours and so even more resources and thriving. Spreitzer et al. (2005)'s model also suggested that thriving at work would result in personal development and increased health.

Spreitzer et al. (2005)'s above theoretical model of thriving at work has been explored, refined and expanded since it was introduced nearly 20 years ago (Goh et al., 2022; Kleine et al., 2019; Porath et al., 2022). Porath et al. (2012) created and validated a Thriving at Work measure. They tested the relationship between thriving at work with additional potential outcomes including career development initiative, burnout, health and job-related performance, and also examined thriving at work in different work contexts. Tens of empirical and theoretical studies have increased the numbers and variety of suggested antecedents (factors that influence or result in thriving at work) and outcomes (factors that result from thriving at work) hugely (Goh et al., 2022; Kleine et al., 2019; D. Liu et al., 2021; Porath et al., 2022; Shahid et al., 2021). The theory and supporting empirical research now suggest that thriving at work has multiple outcomes, expanding the original list of benefits to include such things as work performance, employee retention and organisational financial success, but also identifying some potential liabilities, including lack of non-work thriving, deterioration of family/friend relationships, burnout and isolation (Porath et al., 2022).

Several expansions of the theory have been developed to consider how thriving at work might be experienced by more than a single individual, including dyad/collective/group/team thriving (Goh et al., 2022; Nekooee et al., 2020; Walumbwa et al., 2018) and organisational thriving (Nekooee et al., 2020). These theories have not yet been subjected to extensive empirical research but provide direction for such research.

Despite the conflicting models and definitions of thriving outlined in the previous section, no other models or theories of thriving at work have been put forward that challenge Spreitzer et al. (2005)'s model and its subsequent development and refinement. Bakker et al. (2010) suggested that employees thrive when both job demands and resources are high, based on the Job Demands-Resources model (Bakker & Demerouti, 2007, 2014, 2017). This is in

accordance with Csikszentmihalyi (1990)'s theory of flow (the state of complete absorption in an experience that results in enjoyment and wellbeing), which suggests that flow requires a balance between challenge and skills (Nakamura & Csikszentmihalyi, 2021). Bakker et al. (2010)'s theory of thriving also does not conflict with Spreitzer et al. (2005)'s model of thriving at work: resources were already incorporated in the model, and job demands are more examples of factors that may influence thriving at work. In fact the latest expansions of Spreitzer et al. (2005)'s model of thriving at work explicitly incorporate job demands as well as resources into the model (Goh et al., 2022; Nekooee et al., 2020).

Inherent in Spreitzer et al. (2005)'s theoretical model and its later expansions (Goh et al., 2022; Nekooee et al., 2020; Porath et al., 2022) is the tenet that thriving at work is variable – it is complex, context-dependent and can be deliberately encouraged through focus on one or other of the identified antecedent variables, whether personal or organisational. This is a corollary of the associated SDT (Ryan & Deci, 2000, 2022) and JD-R (Bakker & Demerouti, 2007, 2014, 2017) theories. Multiple interventions have been suggested and studied for both individuals and organisations (Kleine et al., 2019; Porath et al., 2012, 2022; Porath & Pearson, 2012; Porath & Porath, 2020; Spreitzer et al., 2012; Spreitzer & Porath, 2014), but further research is required to show which are more effective in which situation, and how individual and organisational interventions may interact (positively or negatively).

The dominance of Spreitzer et al. (2005)'s theoretical model of thriving at work, means that their definition, that thriving at work is the concurrent experience of vitality and growth, has been adopted by almost all researchers into the topic since it was first proposed (Goh et al., 2022; Kleine et al., 2019). It is the definition of thriving at work used in this research.

2.1.3 How does Thriving Differ from Wellbeing or Flourishing?

It is clear from the literature review above that thriving overlaps with other psychological constructs such as wellbeing or flourishing. The term 'thriving' is often used interchangeably with 'flourishing' and 'wellbeing' in research (e.g., Lehtonen et al., 2022; Su et al., 2014) as well as in common usage (Oxford English Dictionary, 2021, 2024). It is important to distinguish between these terms to confirm the definition of thriving at work chosen for this research.

Wellbeing can be considered objectively (measuring observable criteria such as financial, social or environmental factors) or subjectively (asking people how they feel)

(Conceição & Bandura, 2008). Subjective well-being, as a psychological construct, has been the subject of extensive research for decades (Diener et al., 2017). It is defined as “people’s overall evaluations of their lives and their emotional experiences.” (Diener et al., 2017, p. 3) and is “a broad multi-dimensional construct that extends beyond simply feeling happy or being satisfied with life” (VanderWeele et al., 2020, p. 2).

Both Brown et al. (2017) and Spreitzer et al. (2005) highlight the overlap of thriving at work with subjective well-being but note thriving as distinct – subjective well-being adopts an affective and life satisfaction perspective as defined above, whereas thriving involves both development and success, as discussed in the previous sections.

In popular usage, the terms thriving and flourishing are often used interchangeably – for example a definition of flourish in the Oxford English dictionary is “to thrive” (2024), while a definition of thrive is “To grow or develop well and vigorously; to flourish, prosper.” (2021). In research, the term flourishing is sometimes used specifically in relation to mental health based on Keyes (2002)’s definition of flourishing as “complete mental health ... to be filled with positive emotion and to be functioning well psychologically and socially” (Keyes, 2002, p. 210). Huppert & So (2013) bridge the gap between this definition and that of subjective wellbeing by stating that “Flourishing is synonymous with a high level of mental well-being, and it epitomises mental health” (p. 838). Hone et al. (2014) suggest that flourishing is “a term now commonly used to describe high levels of subjective wellbeing” (p. 62). On the other hand, Su et al. (2014) suggest that *thriving* is related to a high level of wellbeing, stating that thriving “denotes the state of positive functioning at its fullest range—mentally, physically, and socially” (p. 256). This is obviously almost indistinguishable to the definitions of flourishing listed above and so adds to the definitional confusion.

In summary, thriving at work as defined in this research, is a psychological state involving a sense of both vitality and learning (Spreitzer et al., 2005) distinct from both wellbeing and flourishing. Firstly, despite the conflicting definitions of flourishing above, none include a focus on growth or development. Secondly, while positive emotions are involved in all three concepts, thriving at work does not include life evaluations (as in subjective wellbeing) or require peak mental health or wellbeing (as in flourishing).

2.1.4 Measuring Thriving at Work

As described above, there is consensus in the thriving at work literature about the theory of thriving at work (Goh et al., 2022; Kleine et al., 2019; Nekooee et al., 2020; Porath

et al., 2022), based on Spreitzer et al. (2005)'s theoretical model and definition of thriving as: "the psychological state in which individuals experience both a sense of vitality and a sense of learning at work" (p. 538). Porath et al. (2012) developed the Thriving at Work (TAW) scale based on this theory and definition, with subscales of vitality and learning. Almost all studies of thriving at work use this measure (Zhou Jiang et al., 2019), while also measuring other concepts such as well-being, health and other identified potential antecedents and/or outcomes.

The only concern raised in the literature about the TAW is its validity in eastern cultures, specifically the Chinese context (Z. Jiang, 2017; Zhou Jiang et al., 2019) due to different cultural mores impacting how people interpret scale items. Zhou Jiang et al. (2019) put forward a Workplace Thriving Scale (WTS), based on the TAW and other related items, assessed for applicability and appropriateness in Chinese culture.

2.2 Resilience and Resilience at Work

2.2.1 History, Definitions and Models of Resilience

Resilience in psychology has been a focus of research for decades (Masten et al., 2021) and the associated literature is deep and diverse across multiple domains such as medicine, neuroscience, developmental psychology, organisational psychology, clinical psychology, community psychology, social work, and education (Chmitorz et al., 2018; Hartmann et al., 2020; J. J. W. Liu et al., 2020, 2022; Masten, 2007; Masten et al., 2021, 2023; Van Breda, 2018). Across this prolific research, however, there is no universal agreement on a definition, theory, measure or factors involved in resilience. As early as 2000, researchers identified confusion around the definition and use of the term resilience (Luthar et al., 2000). The situation has not improved since then: in their recent comprehensive meta-analysis of resilience interventions, Liu et al. (2020) comment that "There is no current consensus on operational definitions of resilience" (p. 1).

A commonly used definition of resilience was put forward by Luthans (2002) as "the positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change." (p.702). Whilst the notion of 'bouncing back' is frequently used both informally and in research, there are conflicting conceptualisations and theories of resilience, even from researchers in similar fields (Southwick et al., 2014).

Much early research focused on children in high-risk situations, where studies showed that some children demonstrated positive outcomes despite adversity (Masten et al., 1990).

Resilience by this definition was considered rare, and researchers focused on describing and measuring aspects of character, relationships with others or situations that supported the ability to cope with adversity as well as exploring the factors that worsened the situation (Masten, 2001, 2007; Masten et al., 1990). Since then, researchers have realised that resilience is common yet complex (Bonanno, 2004; Masten, 2001), and research has expanded in multiple directions and across many domains to include investigating the processes involved in resilience (how people adapt to or cope with adversity), whether and how resilience can be learned or improved, and how the multiple systems (internal and external) involved when someone encounters adversity might interact (Fletcher & Sarkar, 2013; Masten, 2007; Southwick et al., 2014; Vanhove et al., 2016). More recently, research is taking advantage of advances in neuroscience, technology and genetics in addition to different areas of psychology, social work and sociology, to give a more complete picture of how individuals and systems might resist or positively adapt to adversity (Kaye-Kauderer et al., 2021; J. J. W. Liu et al., 2017; Masten et al., 2021; Southwick et al., 2014; Ungar & Theron, 2020).

This plethora of research across different areas has led to many theories about resilience: Fletcher & Sarkar (2013) identified 17 different theories a decade ago, but commented that all those theories were flawed and suggested that new theories were required. Since then, multiple other theories have been put forward. The most recent are multi-systemic – attempting to clarify the complex interactions between both internal systems within the individual (e.g., neurological, biological and psychological) and external systems in which the individual is situated (e.g., their social, built, or natural environment) in response to adversity (Kaye-Kauderer et al., 2021; J. J. W. Liu et al., 2019; Masten et al., 2021, 2023; Southwick et al., 2014; Ungar & Theron, 2020).

Despite the confusion about the definition of and theories about resilience, there is one thread of agreement - all the definitions include some sort of adversity or challenge as a starting point (Britt et al., 2016; Fisher et al., 2019; Fletcher & Sarkar, 2013; Kalisch et al., 2017; J. J. W. Liu et al., 2020; Southwick et al., 2014; Vanhove et al., 2016). There are differences in the levels of adversity considered by different resilience researchers “...it is well established that the presence of stressors or adversity is a prerequisite to demonstrating resilience... [but] the number of sources and intensity of such adversity can vary greatly” (Vanhove et al., 2016, p. 279). Some researchers focus only on resilience in response to acute (isolated and high-intensity events) such as trauma or major adversity (Bonanno & Mancini,

2008; Galatzer-Levy et al., 2018; Masten et al., 2023; Southwick et al., 2014; Ungar, 2013). Others however suggest that resilience may also be experienced in daily life in response to chronic (high-frequency or high-duration but lower intensity) stressors (e.g., Ong et al., 2009; Ong & Leger, 2022), particularly those working in the organisational psychology domain (Hartmann et al., 2020; Kuntz et al., 2016; Vanhove et al., 2016).

In addition, resilience theorists tend to agree that a wide range of factors are involved in supporting resilience (J. J. W. Liu et al., 2020; Masten et al., 2021; Ungar & Theron, 2020; Vanhove et al., 2016). “There isn’t a right or perfect way to cope. It all depends on the situation” (Southwick et al., 2014, p. 10). The individual’s reaction to the adversity, the precise factors seen as most important, the specific population involved (e.g., children, police officers, people with mental health issues) and the potential outcomes that might result are identified and judged differently by different researchers (Fisher & Law, 2021; Fletcher & Sarkar, 2013; J. J. W. Liu et al., 2017, 2020; Masten et al., 2021; Ungar & Theron, 2020; Vanhove et al., 2016).

This is exacerbated by the fact that resilience is conceptualised in different ways by different researchers: as either a trait, a process or an outcome (Ayed et al., 2019; Fisher & Law, 2021; J. J. W. Liu et al., 2020).

The earliest theorists suggested that resilience was a trait: a stable characteristic or group of characteristics or a predisposition intrinsic to some people which helped those people to achieve better outcomes when they encountered adversity e.g., “the capacity to maintain health, or adaptive outcomes, even in the presence of adversity” (Garmezy, N., 1974, described in Denckla et al., 2020) and “Resilience embodies the personal qualities that enable one to thrive in the face of adversity” (Connor & Davidson, 2003). This conceptualisation continues in use by researchers to this day (Blanke et al., 2023; Chmitorz et al., 2018; J. J. W. Liu et al., 2020; Southwick et al., 2016), however, there is little empirical support for this assumption to date (Kalisch et al., 2017), and most theorists now consider resilience to be a process or an outcome (Kalisch et al., 2017; J. J. W. Liu et al., 2020; Southwick et al., 2014).

Criticising trait-based resilience as too static, researchers moved on to defining resilience as a process. For example, Luthar et al. (2000) suggested that “Resilience refers to a dynamic process encompassing positive adaptation within the context of significant adversity” (p. 543). This idea that resilience is a dynamic process is the dominant

conceptualisation in use in research today (Chmitorz et al., 2018; Kalisch et al., 2017; J. J. W. Liu et al., 2020; Masten et al., 2021; Southwick et al., 2014; Vanhove et al., 2016; Windle, 2011).

This conceptualisation of resilience as a process recognises that resilience is situational, and both protective factors (those that help reduce potential negative consequences of adversity) and promotive factors (those that support positive outcomes regardless of adversity) will vary depending on the specific adversity and the context (Bonanno, 2021; Fletcher & Sarkar, 2013; Kaye-Kauderer et al., 2021; J. J. W. Liu et al., 2020; Ungar & Theron, 2020). Bonanno (2021) has pointed out that a large body of research shows it is difficult to predict who will be resilient to trauma due to situational variability: “[coping] strategy effectiveness is highly dependent on fit with situational demands.” (p. 4) and “a given self-regulation strategy may be useful in some situations, but less useful or even maladaptive in other situations or other points in time” (p4).

More recent resilience theorists are focusing less on individuals responding to specific adversities and more on the multiple systems potentially involved in the resilience process, both internal and external (J. J. W. Liu et al., 2017; Masten et al., 2021; Southwick et al., 2014; Ungar & Theron, 2020). Ungar and Theron (2020) in their multisystemic theory of resilience identify five different types of systems involved, ranging from biological (including neurological) and psychological systems within the person to the social and cultural, built and natural environments they inhabit, cautioning that “contextual and cultural factors can influence PPFs [promotive and protective factors and processes] in many ways” (p. 2). Liu et al. (2020) summarise by saying that “Current directions in resilience research have generally converged to recognize the construct of resilience as the product of complex interactions within and between individuals and socioecological determinants” (p. 2). This complexity explains why many factors have been posited to impact resilience (positively or negatively), but none identified as critical in any situation, let alone across domains.

Conceptualising resilience as a process also suggests that resilience changes over time, both while an individual is responding to a specific adversity, and also throughout their lifetime. Resilience may increase over time due to experience (Robertson & Cooper, 2013; Southwick et al., 2014). People may respond differently to stressors at different points in time, in different contexts (Fisher et al., 2019; Fletcher & Sarkar, 2013). This variation of resilience by time is currently under-researched (Fisher et al., 2019; Kalisch et al., 2017).

The final implication of resilience as a process involving multiple factors and systems and changing over time, is that it suggests that resilience can be deliberately enhanced (Brunwasser et al., 2009; Chmitorz et al., 2018; Dray et al., 2017; Helmreich et al., 2017; Kalisch et al., 2017; J. J. W. Liu et al., 2020, 2022; Reivich et al., 2011). The multitude of theories and factors suggested to impact resilience suggest multiple targets for interventions to increase resilience. For example, the focus could be on changing external factors such as an organisation's policies or culture, or available community resources, or the extent to which an individual is involved in supportive relationships, or alternatively on factors internal to the individual, by helping them to build their internal skills, competencies and attitudes. The many resilience interventions that have been developed over the past few decades tend to be domain-specific (e.g., education, health, occupational, trauma survivors, at-risk youth/children) (J. J. W. Liu et al., 2020) but even within domains they target many different aspects of the resilience process and systems with multiple different approaches (Brunwasser et al., 2009; Chmitorz et al., 2018; Dray et al., 2017; Hartmann et al., 2020; Helmreich et al., 2017; Kalisch et al., 2017; J. J. W. Liu et al., 2020, 2022; Reivich et al., 2011; Robertson et al., 2015; Vanhove et al., 2016). Although some studies have shown good effects for resilience interventions, meta-analyses have indicated that no-one intervention is appropriate or effective in any given situation, given the multiplicity of possible domains, factors targeted, intervention approaches and timeframes involved (J. J. W. Liu et al., 2020; Vanhove et al., 2016). Instead, researchers suggest that the choice of intervention choice needs to be carefully matched to the target population, the situation, the specific target factors plus multiple other considerations such as available time and resources (J. J. W. Liu et al., 2020; Ungar, 2018; Vanhove et al., 2016).

While most researchers now consider resilience to be a process, some researchers conceptualise resilience as an outcome, "meaning that mental (or physical) health is maintained or regained despite significant stress or adversity (i.e., short-term/acute or long-term/chronic, social or physical stressors)" (Chmitorz et al., 2018, p. 79). There is confusion as to how resilience as an outcome is defined. For example, differences exist across domains (e.g., child development, adult mental health, response to critical illness, within organisations) and who decides what resilience as an outcome means: the individual involved (e.g., their lack of psychological problems) or someone else (e.g., they meet or exceed others' expectations) (Chmitorz et al., 2018; J. J. W. Liu et al., 2020; Masten, 2001; Southwick et al., 2014).

A subset of the outcome research considers resilience as a trajectory (so a time-based reaction), one of several potential outcomes after a significant adversity (Bonanno, 2004; Carver, 1998; Galatzer-Levy et al., 2018; Southwick et al., 2014). In this research, resilience is the trajectory which maintains “relatively stable, healthy levels of psychological and physical functioning” (Bonanno, 2004, p. 20) after a potentially traumatic event (PTE). Another possible outcome trajectory, recovery, is where normal functioning temporarily declines or is disrupted, then gradually returns to its original level (Bonanno, 2004; Galatzer-Levy et al., 2018). This concept of recovery is actually more in line with the idea of ‘bouncing back’ suggested by Luthans (2002) than the concept of the resilience trajectory.

Multiple researchers have pointed out that the confusion and wide variety of different perspectives, definitions and theories of resilience is partly because researchers are using the same word to represent these different conceptualisations (trait, process or outcome), and not clarifying what conceptualisation they are using (Ayed et al., 2019; Britt et al., 2016; Fisher & Law, 2021; Hartmann et al., 2020; J. J. W. Liu et al., 2020; Southwick et al., 2014). Fisher & Law (2021) comment: “we believe it is imperative that those who study resilience no longer refer to putative measures within this construct space as simply “resilience,” but rather specify which particular aspect is being targeted; namely, attributes/resources (i.e., capacity for resilience), processes (i.e., enactment of resilience), outcomes (i.e., demonstration of resilience), or perhaps others if future research uncovers additional meaningful categories.” (p. 666).

Fisher and Law (2019), in their review of the literature, define resilience as “the process by which individuals are able to positively adapt to substantial difficulties, adversity, or hardship.” (p. 592). This captures the researcher’s view of resilience after having reviewed the large body of scholarship summarised above and is therefore the definition of resilience used in this research.

2.2.2 Resilience at Work

Resilience at work has not been clearly differentiated in the literature from more general resilience. In fact, many organisational studies of resilience use general resilience definitions and measures rather than work specific ones (Hartmann et al., 2020; King et al., 2016; J. J. W. Liu et al., 2020). Unlike thriving at work, there is no integrated theory that suggests how resilience at work might develop (both individually and collectively) or by what mechanisms resilience might impact key work outcomes (Hartmann et al., 2020; King et al., 2016).

Several theories have been identified as potentially relevant to resilience at work, albeit not integrated to provide a complete picture (Hartmann et al., 2020; King et al., 2016). The job demands-resources (JD-R) theory (Bakker & Demerouti, 2017; Demerouti et al., 2001), splits work conditions into two categories: job resources, both organisational (e.g., autonomy, social support, HR practices, leadership and feedback) and personal (e.g., emotional intelligence, proactive personality, self-regulation) and job demands (e.g., overload, emotional and physical demands, work-home conflict). Introduced to explain and suggest how to prevent burnout at work, over 20 years of research based on the theory has shown that positive job resources (both personal and organisational) can potentially buffer the negative effects of job demands (Bakker & de Vries, 2021; Bakker & Demerouti, 2017; Bakker & van Wingerden, 2021; Demerouti et al., 2019; Xanthopoulou et al., 2007) – that is, support resilience at work. JD-R theory could form the basis of exploring if and how resilience is developed as a personal resource, and also how resilience could support employees to cope with job demands and deliver effective work performance or other desired work outcomes.

The Conservation of Resources (COR) theory (Hobfoll, 1989), a widely applied theory of motivation which underpins JD-R theory (Hobfoll et al., 2018), takes a broader perspective on resources. It proposes that “individuals strive to obtain, retain, foster, and protect those things they centrally value” (key resources) (Hobfoll et al., 2018, p. 104), and that stress occurs when these resources are lost, or threatened with loss, or if significant effort fails to gain such key resources (Hobfoll, 1989). COR also posits that resource loss has disproportionately more impact than resource gain, and downward spirals of stress can occur when people lose resources. It does also suggest resource gain spirals, but suggests those are weak and slow to develop (Hobfoll et al., 2018). All of these aspects of COR are relevant to resilience at work, and suggest further theory-building: e.g., should resilience at work be considered a loss-oriented resource for employees, helping to prevent downward spirals and recover from adversity, or a gain-oriented resource, helping them to acquire further resources, or is the categorisation situation-dependent? (Hartmann et al., 2020; King et al., 2016)

In response to the positive psychology movement (Seligman, 1998; Seligman & Csikszentmihalyi, 2000), psychologists started to consider how positive factors and traits might help individuals deal with adversity. For example, Fredrickson’s broaden-and-build theory (Fredrickson, 2004; Fredrickson & Joiner, 2018), previously mentioned in the context of thriving in section 2.1, suggests how positive emotions may help individuals become more

resilient by helping them ‘bounce back’ from and find meaning in stressful experiences (Tugade & Fredrickson, 2004).

In organisational psychology, Luthans and team proposed a framework of Positive Organizational Behavior (POB), where utilising employee strengths and psychological capabilities would enhance organisational outcomes (Luthans, 2002; Luthans et al., 2024; Luthans & Youssef-Morgan, 2017; Youssef & Luthans, 2007). Building on both COR (Hobfoll, 1989) and Fredrickson’s broaden-and-build theory (Fredrickson, 2004; Fredrickson & Joiner, 2018), they put forward the multi-dimensional construct of Psychological Capital (PsyCap). PsyCap is a psychological state with four subcomponents (Luthans et al. 2007 and 2015, quoted in Luthans et al., 2024, p. 3): **hope** (“persevering toward goals, and when necessary, redirecting paths to goals to succeed”), **efficacy** (“having confidence to take on and put in the necessary effort to succeed at challenging tasks”) **resilience** (“when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success”) and **optimism** (“making a positive attribution about succeeding now and into the future”). They suggested that PsyCap would result in desirable outcomes for both individuals and organisations, such as increased job performance, engagement and subjective wellbeing, reduced turnover and decreased burnout. There is a growing body of empirical support for PsyCap being associated with these desirable outcomes. (Luthans & Youssef-Morgan, 2017; Youssef-Morgan, 2024), and it is clearly relevant for resilience at work, given the inclusion of resilience as one of PsyCap’s core components.

Kuntz et al. (2016, 2017) put forward the concept of employee resilience as “the capacity of employees to utilize resources to continually adapt and flourish at work, even when faced with challenging circumstances” (p. 460). They propose that an employee’s reciprocal interaction with the work environment is integral to developing resilience. They suggest that “resilience should signify the mutual enhancement of employees and organizations” (p. 459), with deliberate focus by both organisations and employees on continually building resilience capabilities for both the individual and the organisation. Their definition is predicated on the tenet that employee resilience is a developable capability leveraging both personal and organisational resources and involves both growth and wellbeing. This therefore is quite an overlap with the thriving at work definition of Spreitzer et al. (2005) mentioned in section 2.1. Tonkin et al. (2018) expand on this by suggesting that employee resilience focuses “the empirical inquiry of resilience away from internal indicators of coping with stress, to the context of demonstrating resilience behavior at work” (p. 109).

Empirical work related to this theory has started (Kuntz et al., 2017; Näswall et al., 2019; Nguyen et al., 2016; Tonkin et al., 2018) but is only in the early stages.

Clearly, all the above theories have a potential role to play in the construction of an integrated theory of resilience at work but the lack of such an integrated theory hampered the efforts of this researcher to clarify how resilience and thriving at work might be related.

Given this use of general definitions of resilience for resilience at work, the same confusion about conceptualisation of resilience as a trait, process or outcome mentioned in the previous section also applies to resilience at work. Hartmann et al. (2020) observe that most researchers consider resilience in the workplace as being a process, rather than “a stable personality trait” or “a state-like developable capacity” (p. 918). This results in the same implications as for general resilience: (a) resilience at work is complex and situational; (b) many systems (internal and external) may be involved, along with a wide range of factors; (c) resilience at work changes over time; and (d) resilience at work can be deliberately developed or enhanced.

This PhD research takes the approach that resilience at work can be conceptualised in the same way as general resilience, but with work-related adversity(ies) and context. So resilience is “the process by which individuals are able to positively adapt to substantial difficulties, adversity, or hardship.” (Fisher et al., 2019, p. 592) experienced in a work context, where the adversity could be an isolated incident such as a specific work crisis, or ongoing lower intensity issues such as stress at work (Hartmann et al., 2020).

2.2.3 Measuring Resilience at Work

There is little agreement in the resilience literature on how to measure resilience, and specifically resilience at work, due to the confusion in definition and conceptualisation on resilience and resilience at work discussed above. This lack of an integrated theory of resilience at work is particularly visible in the confusion in the literature as to whether resilience at work should be defined and measured differently to general personal resilience taking place in a work context. Kuntz and team distinguish the concept of employee resilience from personal resilience (Kuntz et al., 2016, 2017; Näswall et al., 2019; Tonkin et al., 2018), believing employee resilience is conceptually distinct due to their posited reciprocal relationship with the organisation. However, most researchers have suggested that resilience in the workplace is not different to general resilience in concept. They do not feel that the environment being work changes the definition, and they use general personal

resilience definitions in their studies within organisations (Fisher & Law, 2021; Hartmann et al., 2020; J. J. W. Liu et al., 2020; McLarnon & Rothstein, 2013; Windle et al., 2011; Winwood et al., 2013). Except for the employee resilience scale Näswall et al. (2019) developed to measure employee resilience as defined above, the few specific measures developed for resilience at work use general resilience definitions of resilience, just selecting and tailoring scale items as applicable for a work environment (Luthans et al., 2007; Mallak & Yildiz, 2016; McLarnon & Rothstein, 2013; Winwood et al., 2013) plus see the next section.

Liu et al. (2020) in their comprehensive review of resilience interventions point out that only 196 out of 1584 independent samples of data collected to evaluate a resilience building intervention (12%) actually used a resilience scale – the rest measured other outcomes such as wellbeing, symptoms (e.g., depression, anxiety), emotions, coping strategies used, biophysical changes and actions taken. Across those 196 samples more than 37 different resilience scales were used, with Liu et al. also observing that “measures used were not necessarily always representative of construct congruence that would have been appropriate for the respective study designs” (p. 13). Of the 47 studies in the meta-analysis that targeted occupational populations, only one scale specific to resilience at work was used more than once, and that only in 5 of the studies. The other work-related studies either used a general resilience measure or no measure of resilience at all.

Hartmann et al. (2020) in their systematic review of resilience in the workplace identify over 30 different scales used across 83 studies, of which only nine had a specific work focus, with another five focused on career not work resilience. They point out that the identified “measures of resilience might not be directly comparable, as they rely on different conceptualisations of resilience or are either context specific or applicable to different work contexts.” (p. 928).

Cheng et al. (2020) asked subject matter experts (SMEs) to review individual items from 14 available measures of resilience at work, to identify any common themes and understand how the measures related to SME conceptualisations of resilience. They concluded that “many items from the measures were not aligned with subject matter experts’ (SMEs) conceptualizations of resilience” (p. 130) but also that “SMEs were able to sort the relevant items reliably into eight categories” (p. 130). They summarise by strongly recommending that “organizational science scholars more clearly delineate theoretically

grounded definitions and models of resilience, and work to better align operationalizations and measurement with those theoretical underpinnings.” (p. 155).

Norouzinia et al. (2020) conducted a review of the psychometric properties of all scales used to measure resilience at work that they could find. They identified 11 instruments, none of which met all aspects of the criteria they used for content, criterion and construct validity, internal consistency, reproducibility, responsiveness, floor and ceiling effects and interpretability. They did not feel that they could recommend any one of the instruments for every situation. They cite Hartmann (2020) in recommending that researchers be clear on their conceptualisation of resilience as a trait, potential or process. They also suggest reviewing applicability in terms of the length of instruments (citing Windle et al., 2011) and the target population.

Fisher & Law (2021) asked multiple subject matter experts to review 227 items from 11 resilience scales to try to advise on how best to choose a resilience measure. They categorised the items by the different conceptualisations they identified of the construct of resilience: as an attribute/resource, a process or an outcome, but commented that many scales included items from multiple categories. In the same way as Hartmann et al. (2020) and Norouzinia et al. (2020) they suggest choosing a scale based on the theoretical orientation of interest in the study and being very clear on the reasons for choosing a particular scale.

In summary, the plethora of definitions and scales used in studies of resilience at work reflect the lack of clarity in the literature. Choosing a scale to measure resilience at work in this research was therefore difficult (see Chapter 3 for further discussion).

2.2.4 Resilience at Work Research Populations Studied

As every definition of resilience and resilience at work requires some sort of adverse event, organisational researchers have tended to focus on occupations with predictable acute events: ‘high-risk’ occupations – “work that either places people in first-hand contact with traumatic events, in second-hand contact with the people who were at such an event, or where routine exposure to adverse stressors occurs” (Brassington & Lomas, 2021). Therefore, much of the research into resilience at work has taken place with occupations such as the military, the police, fire-fighters, emergency room doctors and nurses, emergency responders, social workers and the like (Vanhove et al., 2016).

In total, of 210 different studies across three recent reviews/meta-analyses of resilience interventions in a work population (Hartmann et al., 2020; J. J. W. Liu et al., 2020,

2022), only 50 (24%) focused on non-high-risk occupations, and only 26 of those (12% of the total number) focused on people in office-related jobs. There is clearly a dearth of literature focusing on non-high-risk workers, particularly those mainly based at a desk, computer or in meetings. Prior to COVID-19 these types of occupations would have been described as office work, but with the change in working conditions, this research suggests the term ‘desk-based work’ to include people working both in offices and at home.

The focus on ‘high-risk’ occupations raises the question of whether the findings hold for other occupations. Britt et al. (2016) comment that findings based on research in the military may not always generalise to a broader working population, given the extreme nature of stressors that may be faced by military personnel.

This suggests a gap in the literature for desk-based workers. Examining what resilience and thriving at work mean to desk-based workers and clarifying the relationship between them will help both individuals and organisations identify how they might both boost their resilience to cope with adversity while also building their capacity to grow and thrive post COVID-19.

2.3 Thriving and Resilience – Are They Aspects of the Same Thing?

There are a variety of views in the literature on whether thriving and resilience are aspects of the same construct, separate, or in some way overlapping. For example, O’Leary and Ickovics (1995) define thriving as “the effective mobilisation of individual and social resources in response to risk or threat”, which is very similar to the definition of resilience summarised by Liu et al. (2020): “the functional process in which individuals adjust and respond to challenges and change in an adaptive manner”.

The research showing that people can sometimes experience positive outcomes after trauma, such as that on post-traumatic growth (PTG) (Tedeschi et al., 2018; Tedeschi & Calhoun, 1996, 2004), stress related growth (Boals & Schuler, 2018; Orosz et al., 2020; C. L. Park et al., 1996; C. L. Park & Fenster, 2004; C. L. Park & Lechner, 2014) and benefit finding (S. T. Cheng et al., 2017; Helgeson et al., 2006; Rosenberg et al., 2019) mentioned in section 2.1, is also clouding the distinction between resilience and thriving. Some consider such growth thriving, whereas others consider it an aspect of resilience (Brown et al., 2017; Infurna & Jayawickreme, 2019). Tedeschi and Calhoun (1996, 2004) showed that that while positive outcomes can occur after trauma (PTG), they often occur at the same time as negative outcomes (Post Traumatic Stress Disorder, PTSD), and this was confirmed by

Helgeson et al (2006)'s meta-analytic review of benefit finding and growth and later researchers (e.g., Zieba et al., 2019). If people are experiencing PTSD at the same time as PTG, can they be considered thriving? Towards the beginning of the rise of this type of research, Carver (1998) stated that the concepts of resilience and thriving should be clarified and made distinct. He suggested that the term thriving should be used when someone is "better off after adversity than beforehand", and resilience "be reserved to denote homeostatic return to a prior condition" (p. 247). However, this suggestion is simplistic, was not adopted by subsequent researchers, and the proliferation of definitions and confusion between terms continued.

Brown et al. (2017), in their review on thriving, discuss their perspective on the relationship between these topics: "following adversity, resilience is considered to represent a maintenance of functioning (Bonanno, 2004), whereas stress-related growth (Park, Cohen, & Murch, 1996), posttraumatic growth (Tedeschi & Calhoun, 1996), and thriving (O'Leary & Ickovics, 1995) have been suggested to describe establishing an elevated level of functioning." Similarly, Britt et al. (2016), in their review of employee resilience comment that the issue of growth following adversity has been subject to extensive debate in the post-traumatic growth literature (Frazier et al., 2009). They recommend future researchers "consider the possibility of growing from exposure to significant adversity at work as a distinct trajectory from resilience" (p. 396). Both of these reviews are suggesting that thriving should be considered different to resilience, confining resilience to 'bouncing back' to previous levels of functioning while growth is inherent in thriving.

As mentioned in section 2.1, there is also disagreement about whether one can thrive without adversity: many definitions of thriving do refer to adversity (Brown et al., 2017; Carver, 1998) but other researchers point out that people can thrive without adversity (Blankenship, 1998; Brown et al., 2017; Spreitzer et al., 2005). Definitions of resilience do involve some sort of adversity, whether acute or chronic, as discussed in the previous section.

Given these conceptual disagreements, it is not clear from the theoretical literature if resilience and thriving at work are different aspects of the same construct, or whether they can be considered separate (but related) constructs. Different empirical researchers have adopted different definitions and operationalisations.

This researcher chose to conceptualise the constructs as outlined earlier in this chapter, which supports distinguishing resilience from thriving in the following ways:

resilience is an adaptive response to adversity, returning to healthy functioning; and thriving involves personal growth and vitality, irrespective of whether adversity is experienced or not. Nevertheless, this confusion over whether the constructs are in fact distinct required investigation and clarification, so the first major piece of work in this research was to explore this, both through empirical research (Study 1) and also by reviewing the existing literature to summarise factors that research has suggested may support or result from resilience and or thriving at work. This research is documented in Chapter 4.

2.4 Resilience and Thriving at Work Research in the Context of COVID-19

As the COVID-19 pandemic developed, an unprecedented research effort grew worldwide - over 20,000 research projects across 9 priorities were established by the World Health Organisation (Bucher et al., 2023), one of which included mental health. Countries established different approaches to containing the virus physically, such as closing their borders, social distancing, school closures, remote working and quarantines (Habersaat et al., 2020; Imai et al., 2020; Ourworldindata.com, n.d.). Work-related difficulties shot up: data from a study of over 1500 people in 46 countries in late 2020 indicated that 89% of employees reported worse work-life balance, 85% lower wellbeing, and 56% increased job demands along with higher burnout (Moss, 2021). Bellotti et al. (2021) reviewed the impact of the COVID-19 pandemic on the labour market and a variety of aspects of working life. They identified 36 studies from around the world documenting the impact of COVID on occupational risk, job loss, re-employment, job insecurity and decisions around retirement.

Research is now emerging showing how COVID-19 impacted mental health for people around the world, in areas such as sleep disturbances, psychological distress, stress, and burnout, anxiety, depression, and PTSD (de Sousa Júnior et al., 2021; Ghahramani et al., 2023; Janitra et al., 2023; Salari et al., 2020; T. Wu et al., 2021). While some people were significantly impacted, higher resilience was associated with increased wellbeing across different populations (Hezel et al., 2022; Manchia et al., 2022; Senger, 2023; Surzykiewicz et al., 2021). In addition, Naddaf and Lavy (2023) found evidence of mild increases in character strengths, as might be expected from the post-traumatic growth research (as described in Section 2.2.4).

Towards the end of the pandemic, research began to be published which assessed or analysed the impact of COVID-19 on resilience or thriving in different work situations. Finstad et al. (2021) identified 46 studies looking at the consequences of the COVID

pandemic on resilience, coping strategies posttraumatic growth and personal growth in the workplace. Although they did not restrict the type of organisation, every study they found was of nurses or healthcare workers. The findings are similar to those in pre-COVID studies, both for individuals and organisations.

Research post-COVID has also started to examine how organisations and their leaders negotiated the pandemic (well or badly). For the most part, this research underlined the importance of organisational factors to individual resilience and thriving that had previously been found pre-pandemic. For example, Lee (2021) highlighted the importance of “equity in the allocation of resources and treatment between different groups (core and periphery)” along with “demonstrating employee care through feedback, timely and specific information sharing and participatory form of communication” (H. Lee, 2021, p. 97). Knutsen Glette et al. (2023) demonstrated that it is important for organisations to change rapidly in response to crisis, involving workers in system and process redesign to maximise benefits. Vito et al. (2023) identified that “Organizational resilience and sustainability can be nurtured through emotional connection and support, organizational culture and teamwork, clear communication, shared decision-making, clear values and mission, and work-home life balance. Transformational leadership and coworkers’ support (Exterkate et al., 2022; Huang & Zhou, 2024) along with nurturing relationships with others both at home and work (Mihelič et al., 2021) have also been shown to be important. In addition, the psychological resilience of managers has been shown to help small and medium sized businesses function better post-pandemic (Barbhuiya & Chatterjee, 2023).

It is unclear how far previous research on resilience or thriving at work is valid post COVID-19. The meta-analyses and reviews mentioned in the previous sections of this chapter were all carried out on studies that took place before the pandemic. As discussed earlier in this section, the COVID-19 pandemic markedly changed the work environment (Kniffin et al., 2021). Many formerly office-based employees are now working from home at least some of the time. Technology for meeting virtually is now employed routinely across the world, reducing both travel and also the number of in-person meetings many workers experience. The sheer scale and pace of the changes, along with the very different levels and types of interactions with co-workers involved in these new working practices may have changed what resilience and/or thriving at work means to the desk-based workers, and/or what factors may be most impactful in building or challenging thriving or resilience at work for such workers.

The research so far published is promising in finding that some pre-COVID findings on beneficial outcomes of resilience and thriving at work for individuals and organisations were also observed during the COVID pandemic. Obviously as further research is published this may change, but it is a good starting point. However, more work is needed to confirm that pre-COVID findings, particularly on antecedents of thriving and resilience at work for those working from home, are still valid post-COVID.

2.5 Summary of Literature Review

This literature review aimed to clarify what research has already established about resilience and thriving at work and if they were distinct concepts, related in some way, or different aspects of the same underlying construct. The objective was to provide a starting point for answering the questions posed at the beginning of the introduction chapter.

The literature on resilience at work and thriving at work is large but confused and in places contradictory. Despite the lack of definitional and theoretical clarity in the literature on thriving, there is a single well-accepted theoretical model and definition of thriving at work (Spreitzer et al., 2005). There are multiple theories and definitions of resilience and resilience at work, with no single unified theoretical basis and definition, although several well-researched organisational and positive psychology theories have been suggested as relevant.

After reviewing the literature, the two constructs have been defined as follows for the purposes of this PhD research:

Thriving at work: “the psychological state in which individuals experience both a sense of vitality and a sense of learning at work” (Spreitzer et al., 2005)

Resilience at work: “the process by which individuals are able to positively adapt to substantial difficulties, adversity, or hardship.” (Fisher et al., 2019, p. 592) experienced in a work context. In particular this assumes that the adversity is experienced at work – which could be an isolated incident such as a specific work crisis, or ongoing lower intensity issues such as stress at work (Hartmann et al., 2020; Ong & Leger, 2022).

The literature suggests that these two constructs can be considered distinct from each other and other similar constructions, although there are overlaps. Resilience at work is distinguished from thriving at work in the following way: resilience at work is an adaptive response to a work adversity returning the individual to a previous level of functioning; whereas thriving at work involves a sense of vitality and personal growth, irrespective of whether adversity is experienced or not.

While the constructs of resilience and thriving at work as defined above are distinct, review of systematic reviews and meta-analyses indicate that of the many antecedent factors (personal, social and organisational) identified for each, some are common to both. Many of the benefits or outcomes attributed to resilience or thriving at work are also common to both. No research has so far considered if any of these common factors are more strongly associated with one of resilience or thriving at work, or if both constructs impact the outcomes similarly. This is complicated by the fact that multiple measures for the same or similar variables have been used in different studies, with an associated lack of clarity on which should be used in any specific situation. Further review and discussion of this is found in Chapter 4.

Both resilience and thriving at work have been shown to (a) be complex and situational; (b) involve multiple systems (internal and external to the person), along with a wide range of factors; (c) change over time; and (d) be responsive to being deliberately developed or enhanced through manipulation of one or more of the identified antecedent factors (personal or organisational). Large numbers of interventions have been suggested, developed and studied to support or increase resilience at work, targeting both organisational and personal factors. Fewer interventions for thriving at work have the same depth of research, but many have been suggested, and more can be inferred from the underlying theory. Their efficacy is variable, and most researchers acknowledge that interventions need to be tailored to the target population, its context and the desired outcome(s). While many similar interventions have been proposed to support each of resilience and thriving at work, no research has taken place to indicate whether or how a single intervention might target both at the same time.

Most of the resilience at work literature targets ‘high-risk’ occupations, such as the police, military, nurses, and first responders, which place people in contact with traumatic events on a regular basis. Little research has taken place on desk-based workers, which is particularly relevant post-COVID, now that many such people are working from home at least some of the time.

As described above, several gaps have been observed in the literature. Firstly, it is not clear whether resilience and thriving at work are completely distinct constructs, related constructs, or aspects of the same underlying construct. While the literature suggests they two constructs are distinct but related, the nature of the relationship is unclear. Secondly, reviewing meta-analyses and structured reviews suggest that many of the antecedents and

outcomes of thriving and resilience at work might be common to both, but no research has confirmed this or considered if there might be different relationships between resilience and thriving at work and any of the common outcomes. Finally, little of the resilience research has taken place for desk-based workers, which is particularly important post-COVID as the working environment has changed considerably due to working from home and technological advances. In any case, researchers are only beginning to investigate whether the findings of previous research into resilience and thriving at work are still valid post-COVID.

2.6 Research Question and Target Population

The overall research question for this PhD research resulting from the gaps outlined above was “How are resilience and thriving at work related for desk-based workers?”.

Multiple sub-questions arose either initially or during the research, each of which was then explored, as outlined in the rest of this dissertation:

- Are resilience and thriving at work different aspects of the same construct or are they distinct constructs that overlap, and if so: how? (Chapters 4, 6 and 7)
- Do resilience and thriving at work impact common outcomes in the same way? (Chapter 5)
- Once defined, can the relationship between resilience and thriving at work suggest new ways to increase thriving at work and hence the associated benefits? (Chapters 6, 7 and 8)
- What sort of interventions might help to increase an individual’s thriving at work? (Chapter 8)

The next chapter discusses the methodology and methods chosen to research the above questions.

Chapter 3

Methodology & Methods

3.1 Introduction

The previous chapter outlined the existing literature on resilience and thriving at work and the relationship between them. It also highlighted gaps in that research, which resulted in the research question for this PhD: “What is the relationship between resilience and thriving at work for desk-based workers?”.

This chapter examines the research philosophy and researcher’s worldview, the resulting research strategy, methodological decisions and limitations. Underlying this discussion are the researcher’s aims for this project (see section 1.2), which were, in brief:

- to understand more about resilience and thriving at work, and if and how they were linked;
- to extend the research particularly around resilience at work to desk-based workers, an under-researched population heavily impacted by the COVID-19 pandemic, in which the researcher has a personal and professional interest; and
- to clarify how the research could be applied in practical ways to benefit both individuals and organisations.

This chapter starts with a discussion of research philosophy and the researcher’s worldview, as relevant to understand the methodological choices made in this research. The next section details the resulting research approach, strategy and design considerations for the programme of research. This is followed by discussions of the methodology and methods used across all studies, including the time horizons, sampling strategies, ethics, data collection methods, data analysis choices and data preparation decisions. Finally, methodological limitations are discussed, clarifying the trade-offs that resulted from decisions made.

3.2 Research Philosophy and Researcher’s Worldview

This section discusses the research philosophy and researcher’s worldview underlying the decisions made about the methods and methodology in this research.

3.2.1 Researcher's Worldview

Ontology, “the study of being” (Crotty, 1998, p. 10) and epistemology “how we know what we know” (Crotty, 1998, p. 8), result in a theoretical perspective and associated assumptions that underpin the methodology and methods used for research (Braun & Clarke, 2013; Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Crotty, 1998). The researcher’s worldview is therefore critical to the decisions made regarding methodology and methods for this research, and how the results are presented (Crotty, 1998).

Historically, the most dominant theoretical paradigm in psychological research was positivism (Creswell & Creswell, 2018; Crotty, 1998). Positivism (and more recently post-positivism) assumes that “a single tangible reality exists—one that can be understood, identified, and measured” (Y. S. Park et al., 2020, p. 691), and that knowledge is based on observing and measuring that reality (Creswell & Creswell, 2018; Crotty, 1998). This led to quantitative research becoming the dominant methodology, with researchers expected to be objective, that is, separated from the research and the participants. (Y. S. Park et al., 2020). Post-positivism softened this, by recognising that aspects of reality exist that cannot be directly observed (e.g. emotions and beliefs), that the researchers’ values and background might influence what they observed, and that they construct theories (knowledge) actively, not only passively observing (Clark, 1998; Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Crotty, 1998).

An alternative perspective has gained strong ground in the last century: constructionism/constructivism (Andrews, 2012; Creswell & Creswell, 2018; Crotty, 1998). Social constructionism considers that there is no independent reality, rather that knowledge is constructed through interaction between people and their context, as people seek to make sense of their world, resulting in multiple valid perspectives and meanings for different people and situations. The implications for researchers are that the goal of research becomes understanding participants’ views rather than measuring an objective truth, that culture, language and context are critical, and qualitative research methods are appropriate (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Crotty, 1998). Social constructionism also implies that researchers interpret their results through their own background and experiences, and which requires reflexivity: “critically reflection of the research process and on one’s own role as researcher” (Braun & Clarke, 2013, p. 10).

Bridging these two is the critical realist perspective, which suggests that the world is real, and exists independently of an individual’s consciousness, but that knowledge of that

world is socially influenced, so people can only view the reality through their own subjective perspective (Braun & Clarke, 2013; Creswell & Plano Clark, 2018; Crotty, 1998; Fryer & Navarrete, 2024; Nightingale & Cromby, 2002). It suggests that researchers should focus on empirical evidence of reality by testing and observing it, but also recognise that their knowledge and interpretation is shaped by their perceptions, background and tools, so requires that researchers remain reflexive as they interpret their results. (Braun & Clarke, 2013; Creswell & Plano Clark, 2018; Crotty, 1998; Fryer & Navarrete, 2024; Nightingale & Cromby, 2002).

Pragmatism, an alternative worldview closely related to critical realism, focuses on “applications – what works – and solutions to problems” (Creswell & Creswell, 2018, p. 11). At its core, pragmatism considers that “the meaning of a concept consists of its practical implications” (Robson & McCartan, 2016, p. 28), with the researcher “being guided by practical experience rather than theory” (Robson & McCartan, 2016, p. 28) and recognising “singular and multiple realities” (Creswell & Plano Clark, 2018, p. 38). The impact for researchers is that their main focus is the research problem, and they should use whatever approaches help describe and define it (Creswell & Creswell, 2018, p. 12; Creswell & Plano Clark, 2018). Pragmatic researchers therefore choose methods based on how best to understand the research problem: both quantitative and qualitative, and focus on real-world practice (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Robson & McCartan, 2016).

This researcher is a career coach and consultant – a practitioner very much focused on the real world and what works. As a result, the researcher’s worldview for this research was that of a pragmatist and critical realist – assuming topics of this research are real and can be measured, but recognising their associated social constructions, and pragmatically choosing methods to elucidate the research problem from multiple perspectives and consider real world applications.

3.2.2 Researcher’s Identity as an Insider Researcher

In addition to the above worldview, there was no separation in this research between the researcher and the researched. The researcher had been a member of the target research population as a desk-based worker for over 40 years. The researcher had also studied the existing literature on psychological topics that are subjects of (or impact on or result from subjects of) this research for over a decade before starting this research. Hence, the researcher was an insider researcher – someone studying topics with which they are familiar, and a

member of the group being studied (Brannick & Coghlan, 2007; Greene, 2014; Le Gallais, 2008; Merton, 1972; Saidin & Yaacob, 2016).

Being an insider researcher has both advantages and disadvantages (Brannick & Coghlan, 2007; Greene, 2014; Le Fèvre, 2023; Le Gallais, 2008; Merton, 1972; Saidin & Yaacob, 2016). Those identified as relevant to this research are summarised in Table 1 below. This summary underscored the importance of being reflexive – consistently being conscious of and considering the potential impact of being an insider, whether positive or negative (Braun & Clarke, 2013; Creswell & Creswell, 2018; Creswell & Plano Clark, 2018; Le Gallais, 2008). So long as the researcher remains reflexive, insider research has been identified as valuable and appropriate in many settings including organisational research (Brannick & Coghlan, 2007).

Corbin Dwyer & Buckle (2009) suggest that qualitative researchers should focus on recognising ‘the space between’ – being *both* insiders *and* outsiders, not either-or. They state that “The intimacy of qualitative research no longer allows us to remain true outsiders to the experience under study and, because of our role as researchers, it does not qualify us as complete insiders.” (p. 61). This researcher attempted to achieve this ‘space between’ throughout the qualitative research performed – remaining conscious of ways both inside and outside knowledge could influence the research design, analysis, results and interpretation. Section 9.6 on page 171 reflects on the experience of the researcher during the research and expands on this topic.

3.2.3 Resulting Philosophy for this Research

The pragmatic, critical realist worldview of the researcher, along with their status as an insider-researcher, underpinned all the methodological and methods decisions taken in pursuing the answers to the research question “What is the relationship between resilience and thriving at work, for desk-based workers?”. The researcher recognised the value of multiple different approaches in elucidating different aspects of that question, and that pragmatic decisions might need to be taken in research design to take account of real-world limitations. Trade-offs resulting from these decisions are discussed in detail in section 3.4 Methodological Limitations and Trade-offs, at the end of this chapter.

Table 1: Advantages, Disadvantages and Implications of Being an Insider Researcher for This Research

Researcher ...	Advantages	Disadvantages	Implications for research
...has a passion for the topic, and a keen desire to find results useful in practice.	They may therefore keep going despite obstacles.	Researcher may over-state the results - make practical recommendations that are not supported by the research results.	Be very aware and conscious of where own knowledge and experience might impact interpretation. Be very clear on what can be accurately said about results.
... has many contacts among the target population in multiple organisations and countries	<p>Access to a variety of participants from differing backgrounds</p> <p>Potential for fast creation of trust during interviews and coaching, supporting open and honest discussions of difficult topics</p>	<p>Potential for social desirability bias from participants wanting to ‘help’ the researcher, particularly in interviews, coaching and verbal feedback sessions.</p> <p>Participants and researcher may take some things for granted, either from shared history or joint understanding – so some points may not be made explicit and therefore analysed effectively.</p> <p>Potential over-familiarity with participants may lead researcher to lose objectivity and bias results given own knowledge and experience.</p>	<p>Care in interpreting results – how the participants view both the research and the researcher may impact responses, along with social desirability.</p> <p>Keep a reflexive journal (especially during the analysis) to encourage ongoing conscious consideration of how knowing participants may influence the research, including the questions asked, responses given and the analysis of the results</p>
...has a long familiarity with relevant organisational and psychological research and a deep interest in the target population as both clients and as a participant	<p>Creation of surveys, selection of measures, and qualitative questions draws on deep knowledge of other studies done with target or related constructs.</p> <p>Researcher fully understands the issues and questions and can communicate them effectively to participants. May result in deeper exploration of some topics – finding good questions to unlock detailed participant descriptions, and exploring nuances that might otherwise have been overlooked.</p> <p>The researcher’s experience can enrich the qualitative analysis (see discussion of Reflexive Thematic Analysis in section 3.3.6)</p>	<p>Researcher may prioritise measures or studies with which they are already familiar over other, potentially more suitable, measures or background research.</p> <p>Researcher’s views and knowledge may be privileged over those of participants.</p> <p>Researcher may take things for granted and not explore participants’ experiences in depth.</p> <p>Researcher may de-prioritise certain issues in research as they do not see them as important compared to how an outsider would see them.</p>	<p>Do a wide literature search to identify relevant studies and measures. Clarify selection criteria to be clear on how to choose the most appropriate for any given study.</p> <p>Make sure any interviews or coaching are semi-structured with carefully constructed questions reviewed by supervision team, to ensure no assumptions made up front. During interviews, avoid assumptions about what participant means and interjecting with own experiences: use open questions to ask participants for more detail and explicit explanations.</p> <p>Use the reflexive journal mentioned above (especially during the analysis) to encourage ongoing conscious consideration of how researcher’s knowledge and perspective are influencing the research.</p>

3.3 Research Approach, Strategy and Design Considerations

3.3.1 Research Programme Strategy and Design

The literature review had suggested that resilience and thriving at work were distinct constructs but overlapped. Therefore, the first research question was “Are resilience and thriving at work the same thing, and if not, how are they related?”. The researcher addressed this problem in multiple ways. Firstly, Study 1 in this research was designed as a survey measuring both resilience and thriving at work across a large group of participants, with quantitative analysis examining correlations between the constructs, to give a quantitative perspective on if and how far resilience and thriving at work overlapped. Secondly, factors identified in the literature as connected to resilience and thriving at work were compared to see if and where they overlapped. Thirdly, once the constructs had been shown to be distinct but overlapping, and common factors identified, the researcher focused on clarifying whether the effects of each of resilience and thriving at work on identified common outcomes were similar or different. This question lent itself to a quantitative approach in Study 2, involving a survey of a large random sample of participants and partial correlation analysis to test whether there was a difference in how common outcomes were impacted by resilience and thriving at work.

Inductive, exploratory work was then needed, with the researcher seeking a deeper understanding of how resilience and thriving at work were experienced by desk-based workers, whether or how the relationship between the two constructs might work, and what other factors might be involved. Study 3 therefore took a qualitative approach, interviewing participants about how they experienced and conceptualised resilience and thriving at work. The interviews were followed by reflexive thematic analysis to develop themes and an illustrative framework about the relationship between resilience and thriving at work.

In Study 4 the researcher returned to deductive research, to start to confirm the illustrative framework of the relationship between resilience and thriving at work that was developed in the third study. While initially a mediation analysis study involving the whole framework was considered, that idea was abandoned due to the complexity involved (there are over 25 individual factors in the framework). Three potential mediators had been identified in the previous study that had not previously been studied, according to the analysis of associated factors described in Chapter 4. Those mediators were chosen as the subject of a quantitative mediation analysis approach in study three. This would test a small part of the framework

describing the relationship, focusing on the three mediators which had not previously been researched.

Finally, it was important to the researcher to understand the potential practical applications of the results of the research. Therefore, in Study 5 an experimental approach was chosen, to illustrate the potential for using the results of previous studies to design an intervention to develop thriving at work. The intervention involved participants taking a questionnaire resulting in a report on their resilience at work, followed by semi-structured coaching including information on results of previous studies, with a control group who only took the survey and received the report. This intervention was chosen based on the researcher's profession and previous experience with the questionnaire (for a more detailed discussion of the choice of intervention, see section 8.2 on page 125). A mixed-methods evaluation was considered appropriate, structured around Kirkpatrick's (1996) approach: reaction, learning, behaviour, results, with a repeated measures between and within-subject design, to gain an in-depth understanding of the different potential impacts of the intervention. The repeated measures were the measures of wellbeing and thriving at work used in previous studies, taken before and at least one month after the intervention. After the intervention participants were asked both quantitative questions, which asked participants to rate aspects of the intervention on a 1-5 scale, and qualitative questions to gather more detail and insight into their experiences. For practical reasons, the study was designed only as a pilot with a small number of participants, but it would illustrate how the results of this research could be used in practical ways to make a difference to thriving at work.

Details of the specific methodological decisions and methods for each study are explored in more detail in the chapters documenting each study.

3.3.2 Impact of COVID-19

This research started in the middle of the COVID-19 pandemic. Some methodological decisions were therefore made pragmatically. The primary impact was that all interviews for the third study were conducted online rather than in person. This ensured they could take place in a timely fashion, and as a beneficial side-effect also allowed participation from participants across the globe, not just from the UK, despite the varying restrictions imposed in different countries at different times. As desk-based workers, all the participants were familiar with meeting online, and so the virtual meeting technology used (Zoom) was not seen by them as unusual. Neither the participants or the researcher had any problems or concerns with the use of the technology, nor did it seem to be a barrier to the breadth and depth of issues discussed within the interviews.

The online interviews in the third study were so successful that the coaching and feedback sessions in the final study were also conducted online, with similar advantages to those seen in the first study.

In addition, improvements in virtual meeting technologies that had developed or improved during the pandemic were utilised throughout the research, including recording of meetings and automatic transcriptions.

Finally, the situation of this research during the COVID-19 pandemic not only forced the methodological decisions described above, but it also provided a relevant backdrop to the research. As mentioned in the introduction, everyone was affected by this major adversity, in multiple ways (Mental Health Foundation, 2022). While this was generally expected to be beneficial to this research, nevertheless having participants answer surveys and give interviews during a global pandemic may have skewed the results in unpredictable ways.

3.3.3 Time Horizons

The choice was made for a cross-sectional (at one point in time) rather than longitudinal (several measures taken over a time period) approach for most of the studies. This was because the overall objective for these studies at this stage was to explore the relationship between resilience and thriving at work as at one point in time, rather than looking at how that changed over time.

The final study required a repeated measures approach as discussed earlier, to explore the impact of the intervention on the participants. The constructs of interest (thriving at work and wellbeing) were measured for all participants via survey before the intervention and then again at the end of the study (4-16 weeks later, depending on participant). The evaluations were taken verbally immediately after coaching (for those coached) and then in the final survey for all participants. This enabled analysis of how the participants experienced the intervention (see previous section) and gave a small amount of insight into how that changed over time for coached participants only. For more discussion on this, see Chapter 8.

3.3.4 Sampling Strategies

Initially, sampling for the first study was non-random – a convenience, snowball approach, where the researchers contacted potential participants by email and social media, drawing the study to their attention and asking them to pass the details on to their contacts. Participants who were interested in being interviewed entered their email address in the survey, and all such people were contacted by email to arrange interviews. This non-probabilistic

approach was seen as appropriate due to practicality and resource constraints, despite the associated potential drawbacks of selection bias and potential lack of generalisability (Bornstein et al., 2013; Creswell & Creswell, 2018; Robson & McCartan, 2016).

However, when only 67 participants for the survey part of the first study were gained through the snowball approach in the first month, a different approach was sought to increase the potential power of the study. This was because much recent psychological research has focused on the problem of under-powered psychological studies failing to show true effects (Nosek et al., 2022; Schönbrodt & Perugini, 2013; Simmons et al., 2011; Vazire, 2018).

The decision was made to use an online platform dedicated to providing participants for online research. Prolific, an online platform, was created by researchers from Oxford University in 2014 to provide easier access to “reliable, engaged and fairly treated participants” for research (Prolific.com, 2024a). It vets participants thoroughly, including IP address validation, identity checks and checking answers for attention, comprehension and honesty, with ongoing checking to detect fraud, bots and participants with low quality answers (Prolific.com, 2024b). It was chosen over other platforms such as Amazon MTurk because of its focus on validation, treating participants ethically and providing many filtering and pre-screening options for researchers to ensure participants meet designated study criteria (Prolific.com, 2024c). It has a large active participant pool of over 200,000 mostly UK-based participants. Researchers can specify that their total group of participants have a 50:50 gender balance or an ethnic profile that matches the UK population. Participants who match the researcher’s criteria are then selected randomly by first-come, first-served responses to emails from Prolific about the survey.

Tabachnick & Fidell (2013, p. 123) suggest a sample size of $N \geq 50 + 8m$, where m is the number of variables, for testing multiple correlations, and $N \geq 104 + m$ for testing individual predictors. These both assume a medium effect size, $\alpha = 0.05$ and $\beta = 0.20$. When interested in both statistics, they suggest calculating both ways and choosing the larger sample size. They also suggest that a larger sample size is needed if the dependent variable is skewed, or the effect size is expected to be small. Schönbrodt & Perugini (2013) highlight that for maximum precision and stability of the estimate of the correlation size, large samples over 1000 participants are required, but also point out that this is unlikely to be possible for most studies due to cost and logistical constraints. They suggest assuming an effect size of $d = .21$ is appropriate as that was the average published effect size in social psychology found in a meta-meta-analysis of over 25,000 studies (Richard et al., 2003). They suggest that aiming for about 250 participants is a good balance between accuracy and confidence for typical research. Brysbaert (2019) suggests that

aiming for an effect size of $d = .4$ and power of 80% is appropriate, which implies 194 data pairs for a correlation.

G*Power (Faul et al., 2007, 2009) was used to identify that at least 134 participants would be needed to detect a relationship between two variables with an effect size of $\rho=0.3$, with error probability $\alpha = 0.05$ and power ($1-\beta$, where β is the probability of retaining an incorrect null hypothesis) of at least 0.95. G*Power suggested a sample size of 314 would be required to detect an effect size of $\rho=0.2$ and 284 participants would be needed to detect an effect size of $\rho=0.21$ (See Appendix A).

Based on the above findings, 250 participants were sourced from Prolific for Study 1, in less than a day, in addition to the 67 from the snowball approach. This ensured the sample was much more random, in addition to being much larger. Participants who failed attention questions were removed from the Prolific sample, and tests were carried out to identify if there was any major difference between the two samples (details in Appendix E). This gave a total of 310 participants, well above the suggested number for a correlation $\rho=0.3$ and $\rho=0.21$ and approximately that suggested by G*Power for $\rho=0.2$.

Using Prolific for the survey in study 1 proved to be so straightforward and fast, and such a good source of a large random sample of participants, that the decision was taken to use Prolific for all future quantitative studies in the research, providing large number of randomly selected participants to power the studies.

Study 2 involved 9 different variables for the first run, and 11 for the second, so using the Tabachnick & Fidell (2013) suggestions for sample size listed above [$N \geq 50 + 8m =$ and $N \geq 104 + m$], that resulted in a minimum sample size required of 122 and 132 respectively. Given Schönbrodt & Perugini (2013)'s suggestion of a minimum of 250 participants, Prolific was used to source 288 random participants for the first run (after data cleansing) and 284 participants for the second.

Study 4 was designed to use structural equation modelling with 6 main variables. There are a variety of suggestions as to sample sizes required for mediation analysis in the literature, ranging from 30 to hundreds, depending on the effect sizes expected (Fairchild & McDaniel, 2017; Schoemann et al., 2017; Wolf et al., 2013). Prolific was used to source a random sample of 241 participants for this study (250 before data cleansing). After the study completed, the researcher used the online app written by Schoemann et al.

(https://schoemanna.shinyapps.io/mc_power_med/) to estimate the power of the analysis – this

was calculated at greater than .97 for both two (communion striving and individual authenticity at work) and three (adding in sense of coherence) mediator models (see Appendix B).

3.3.5 Quantitative Data Collection and Analysis

Multiple measures were considered for each construct being examined in quantitative studies. Details of the selection criteria and process for each construct in each study are provided in the Methods sections of the relevant chapters.

In addition to the measures for the constructs of interest in each survey, demographic data was collected: age range, gender, country, and ethnicity; and questions about work: area of work, full/part time, manager (yes/no), how long at current job, and level of job stress. This data illustrated the nature of the sample and underlying population, but were not used in statistical analyses, as the research questions did not require such analyses.

Online surveys were used to collect quantitative data for all relevant studies. The Qualtrics system was used to create the surveys, as that is the recommended tool for research in the school of Life and Medical Sciences at the University of Hertfordshire.

Quantitative data was downloaded from the Qualtrics online survey system into an excel spreadsheet. The spreadsheets were anonymised if not already anonymous, with each participant assigned a unique identifier. Invalid data (from participants who did not meet the study criteria or did not finish the survey) were removed, along with unneeded columns and headers added by Qualtrics. Finally, the spreadsheet was saved as a .csv file and imported into IBM SPSS software for quantitative analysis. Reverse scores for relevant items within each measure were calculated in SPSS, and then the final scores for each measure calculated. These scores were then used in various statistical analyses, as described in the relevant chapter for each study.

3.3.6 Qualitative Data Collection and Analysis

Zoom-based online meetings were used for interviews, coaching and oral feedback sessions. This enabled participants to be based anywhere in the world, and also provided an automatic transcription service. While the automatic transcriptions were useful, they were not completely accurate, particularly for participants with a strong accent. Each Zoom meeting was therefore recorded, and the transcription anonymised and then checked in detail against the recording by the researcher and spot-checked by the principal supervisor. The recordings and non-anonymised transcriptions were subsequently deleted, as had been described in the ethics proposals (see Appendix C). The anonymised transcripts were imported into NVivo software for qualitative coding and analysis.

An online survey was also used to collect qualitative feedback data for Study 5, alongside the quantitative data. All responses were downloaded from the Qualtrics online survey system into an excel spreadsheet. The spreadsheets were anonymised (each participant assigned a number), invalid participants (who did not meet the study criteria or did not finish the survey) were removed, along with redundant columns and headers added by Qualtrics. The qualitative question responses were separated from the quantitative data into a separate spreadsheet, and then uploaded to NVivo software for qualitative coding and analysis.

Reflexive thematic analysis (RTA) (Braun & Clarke, 2006, 2013, 2021b) was chosen as the qualitative analysis approach for both the interview data in Study 3 (described in Chapter 6), and the qualitative data collected as part of Study 5 (described in Chapter 8). The strengths of RTA, as articulated many times by Braun and Clarke (Braun et al., 2016; Braun & Clarke, 2006, 2013, 2021b, 2021c; Clarke & Braun, 2017), made it particularly suitable for the studies in this research. Firstly, RTA is one of the qualitative analytic methods for finding patterns of meaning in qualitative data, which was the objective in both studies. It is highly flexible and adaptable to suit the research question, not being bound to a specific epistemological framework, fitting with the researcher's pragmatic worldview. It incorporates reflexivity as a core part of the analysis process, acknowledging the researcher's viewpoint in shaping the analysis. It is suitable for researchers without much experience in qualitative research (such as this researcher), as there is a great deal of detailed guidance available about the RTA process. It allows for deep and nuanced interpretation of data, and exploring "influencing factors and processes" (Braun et al., 2016 Table 15.1) so it is suitable for complex multi-faceted phenomena such as the topics of this research. While it supports and is ideal for theory exploration and creation, it does not require creation of a theory. The RTA process includes two stages of review, with the objective being the production of both rigorous and high-quality analysis. In addition, reflexive thematic analysis has been used successfully in organisational research for many years across many different areas (e.g., Bencker et al., 2022; Bott & Tourish, 2016; Clarkson et al., 2022, 2023; Golenko et al., 2012; Nichol et al., 2024). Bott and Tourish (2016) recommend the use of thematic analysis as the analysis for organisational studies employing the critical incident technique (CIT) (used as the approach for interviews in Study 3 – see more detail in section 6.1.3 on page 93). They specify it as particularly suitable for coding themes through spotting patterns in CIT data.

Other qualitative analysis approaches were briefly considered but seemed less appropriate for the studies for the following reasons. Phenomenological Analysis, including Interpretive Phenomenological Analysis (IPA), focuses on working with a small number of

individuals to “understand the essence of the experience” (Creswell & Poth, 2019, p. 67). It was not selected as the research was focused on more than individual experiences – the research needed to focus also on the organisational context, and ideally provide “clear implications for practice” (Braun & Clarke, 2021c). Grounded Theory (GT), on the other hand, works with larger numbers of participants to “develop a theory grounded in data from the field” (Creswell & Poth, 2019, p. 67). While this was closer to the study objective, many theories already exist (see Chapter 2), and the researcher was interested in identifying patterns in the data, and providing “a theoretically informed interpretation of them” (Braun & Clarke, 2021c, p. 7) rather than developing a new theory. Content Analysis is the most similar to RTA (Braun & Clarke, 2021c), but tends to involve looking for patterns through an objective, often quantifiable analysis such as frequency of usage or occurrence (Braun & Clarke, 2006, 2021c), which was considered less flexible and appropriate than RTA for the studies in this research. Approaches focused on single individuals or culture-sharing groups such as Narrative Research, Ethnographic Research and Case Study Research (Creswell & Poth, 2019) were not considered as the research question required considering a broader target population.

The reflexive thematic analysis process involves six stages repeated recursively as needed (Braun & Clarke, 2006, 2013, 2021b). The researcher followed the detailed process described by Braun and Clarke in their recent book (2021b). The process for Study 3 is described below. A similar process was followed for the qualitative analysis in Study 5. Detailed information about the results of the process in each study is found in Chapters 6 and 8, respectively.

Phase 1: Dataset Familiarization. Repeated listening to each interview to ensure accuracy of transcription and capture additional important aspects of the interviews (e.g., laughter) ensured the researcher became deeply familiar with the data.

Phase 2: Coding. Codes that seemed appropriate were created as the transcripts were reviewed, rather than pre-defining codes. After coding all transcripts once, they were examined again in a different order, to ensure all interviews were coded the same way and to generate new codes. The full set of codes was then reviewed against the associated transcripts to confirm data was coded appropriately across different yet similar codes, and, where necessary, codes were combined or refined.

Phase 3: Generating Initial Themes. The codes developed in the previous phase were grouped into collections or ‘super-codes’, where codes illustrating the same point were grouped

together. Initial themes were generated based on reflection as to how these collections could be grouped into helpful stories about the relationship between resilience and thriving at work.

Phase 4: Developing and Reviewing Themes. These initial themes were then considered in connection with the research question: the relationship between resilience and thriving at work. The themes were refined and developed according to how they fit with both the coded extracted data and the full original dataset. During this phase, the researcher had multiple discussions with her supervisor about the themes and how they fit together. This resulted in development of an initial framework to illustrate the relationship between resilience and thriving at work.

Phase 5: Refining, Defining and Naming Themes. Refining themes continued, to clarify which were the key ideas that informed the relationship between resilience and thriving at work until the final theme names and descriptions were settled. The pictorial framework illustrating the nature of the relationship between resilience and thriving at work was updated and finalised.

Phase 6: Writing Up

Throughout the process, the researcher wrote notes and a reflexive journal and drew pictures and diagrams, which culminated in this chapter. Each new piece of writing or diagram raised questions that prompted going back to previous stages to confirm or clarify the codes, themes and their associations, as expected in reflexive thematic analysis (Braun & Clarke, 2006, 2013, 2021b).

3.3.7 Evaluation Data Collection and Analysis for Study 5

As mentioned above, Study 5 included both quantitative and qualitative data as part of the evaluation process. The data was gathered verbally in the evaluation sessions immediately after the coaching sessions for Group 2 participants, and also through Qualtrics in the final surveys. The Qualtrics survey data was downloaded and processed as described in the previous section on Quantitative Data Collection and Analysis (section 3.3.5). The verbal data was transcribed and downloaded as described in the previous section (section 3.3.6) on Qualitative Data Collection and Analysis.

Once the data had been collected, it was analysed through a combination of quantitative and qualitative approaches in the context of the Kirkpatrick (Kirkpatrick, 1996) evaluation approach, as described in detail in Chapter 8.

3.3.8 Ethical Considerations

Ethical approval for all studies was sought from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority. See approvals in Appendix C.

Approval for Study 1 and Study 3 (originally planned to be part of one larger study) was granted on 12th May 2022, protocol number: LMS/PGR/UH/04986, including the help of a master's degree student for some data collection, and valid for data collection until 31st December 2022. An application to extend and modify the existing protocol to include the use of Prolific for finding study participants was granted on 4th August 2022, protocol number: aLMS/PGR/UH/04986(1), valid until 31st December 2022.

Approval for study 2 was granted on 1st November 2022, protocol number: LMS/PGT/UH/05150, valid for data collection until 31/12/2022. An application to extend and modify the existing protocol to include two additional measures and re-run the survey was granted on 14th September 2023, protocol number: aLMS/PGT/UH/05150(1), valid for data collection until 31/12/2023.

Approval for study 4 was granted on 31st October 2023, protocol number: LMS/PGR/UH/05490, valid for data collection until 31/12/2024.

Approval for study 5 was granted on 14th November 2023, protocol number: LMS/PGR/UH/05499 valid for the collection of data until 31st December 2024.

3.4 Methodological Limitations and Trade-offs

Several limitations and trade-offs resulted from the methodological decisions described above. They are described briefly in this section, and in more detail in the chapters describing the affected studies.

The first limitation is that while using Prolific resulted in a much more random sample than a convenience sample, with enough participants to adequately power the quantitative studies, little is known about the participants. Participants are vetted by Prolific, and basic demographic information is provided. However, other than that (and the questionnaire responses in the studies themselves), all that is known is that the participants were interested in being paid (a small amount) for participating in research. This potentially affects the generalisability of the results, since the larger population is unknown.

The selection of interview and coaching participants via a snowball approach is also problematic. While it resulted in a pool of participants who definitely fit the study population, and who were enthusiastic and interested in the research, there were also some downsides. Many (but not all) of the participants were known to the researcher (or the master's student involved in Study 3) prior to the research. This could have impacted their responses by increasing the likelihood they answered in a way that they thought would help the researcher, or be socially desirable, rather than giving their unvarnished thoughts and opinions. It also limited the diversity of the participants – almost all were white, and the majority were older than 40. Qualitative research, particularly RTA, does not require the same level of diversity as quantitative research, but even so the limited diversity is likely to have limited the experience and views of the participants involved in the study, which could influence the usefulness of the results.

As mentioned above, all study participation took place online: surveys, interviews and coaching sessions. This is more convenient in many ways, for both participants and the researcher, but clearly limited the participant pool to those who were familiar and comfortable with the technology. Given the target population was desk-based workers, this was not expected to be a major problem, particularly after the impact of COVID-19. However, holding interviews and coaching sessions online adds an element of distance to the situation. This could have resulted in participants feeling less comfortable discussing details of their lives with the researcher than if the interviews and sessions had been face-to-face.

The selection of measures used for the quantitative research were all self-report. This was for ease of use, particularly to get a large enough group of participants to power the study. However, many of the factors researched would have benefited from other, non-self-report data to triangulate with the self-report data. This could give stronger results, or at least provide evidence for differences between the individual's judgements and those of others. Examples of data that could have bearing on the studies performed in this research include observations of how individuals and teams handle stressful situations, performance evaluations from peers or managers, or organisational data (memos, emails, texts) that could be mined for information about resilience, thriving, performance, work engagement or many other variables. Studies involving such third-party measures might have more robust results, but were infeasible in the context of this research, which had little information about participants (who were sourced anonymously via the internet). Should the research continue in partnership with one or more large organisations, study designs incorporating such measures in addition to or instead of the self-report data should be considered.

As mentioned in section 3.2.2 above, the researcher had nearly two decades of background knowledge of research findings relating to this research. The pros and cons of this were considered (see Table 1), and the researcher was very aware of the need to be reflexive about the research. However, there is no doubt that this influenced the research – the questions asked, the topics of the studies, the approaches chosen, and the analysis performed. The researcher's perspective influencing the results is considered inevitable, even desirable in RTA: the RTA process incorporates reflexivity (Braun & Clarke, 2006, 2021b). This is intended to ensure that the researcher is critical and aware not only of how their knowledge, situation and values may influence the research, but also about the potential impact of how the methods and design shape the output, along with how academic expectations impact the production of knowledge (Braun & Clarke, 2006, 2021b). Such in-depth levels of reflexivity are not normally considered during quantitative research, where the researcher is expected to be objective (Creswell & Creswell, 2018; Crotty, 1998), but critical realism still requires consideration of how the researcher's perspective impacts on the research (Creswell & Plano Clark, 2018; Crotty, 1998; Fryer & Navarrete, 2024).

3.5 Summary

This chapter set the scene for the rest of the dissertation, by discussing how the research philosophy resulting from the researcher's worldview informed the research programme, strategy and methodology, resulting in the use of quantitative, qualitative and evaluative methods in different parts of the research. It summarised the reasons for these methodological decisions made across the whole research effort. Individual decisions made study by study as the research unfolded are described in the relevant chapters later in this research.

This dissertation continues with discussions of the research programme in detail, study by study. It culminates in a final discussion chapter which reviews the whole programme of research in the light of what further research might be appropriate, applications of the research in the real world, and researcher reflections and conclusions.

Chapter 4

Exploring If and How Resilience and Thriving at Work Might be Related

This chapter discusses the beginning of the research journey to explore if and how resilience and thriving at work might be related. It starts by discussing what literature exists on the overlap between resilience and thriving at work. It documents the first study, which focused on a quantitative exploration of the relationship between the two constructs. It concludes with a description of how the literature was examined in more detail to clarify potential overlaps in antecedents and outcomes.

4.1 Existing Research Into the Relationship Between Resilience and Thriving at Work

Given the confusion in the literature about conceptualising resilience and thriving at work described in Chapter 2, it is not surprising that there is also confusion about the relationship between the two. Research is almost completely lacking in exploring the relationship between resilience and thriving at work.

A very small amount of empirical and investigative research has been done exploring the impact on thriving at work of psychological capital (PsyCap). As discussed in Chapter 2, PsyCap is a higher order construct which includes self-efficacy, optimism, hope and resilience at work (Luthans, 2002; Luthans & Youssef-Morgan, 2017). These four resources combine to form a higher-order core construct which is expected to have broader and more impactful effects than any one of the components individually (Luthans et al., 2007). Luthans defines the resilience part of this construct as “the positive psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility.” (Luthans, 2002, p. 702).

While Kleine et al. (2019)’s meta-analysis of thriving at work identifies PsyCap as an antecedent of thriving at work, this is based on only one study. Paterson et al. (2014) surveyed 198 full time employed adults sourced via management students at a large US university, and concluded via structural equation modelling that PsyCap was an antecedent of thriving at work (mediated by task focus and heedful relating). Liu et al. (2021) in their meta-analytic review of antecedents of thriving at work also identify PsyCap as an antecedent of thriving at work. They refer to the same Paterson et al. (2014) study, and also four other studies. Two of these are a duplicate and a theoretical review paper. Of the others, one is a correlational study (H. an Chen et al., 2016) which does show a positive correlation between PsyCap and thriving at work although does not attempt to show the order of the relationship. The other empirical study, a

master's degree thesis, shows that PsyCap mediates the relationship between implicit person theories and workplace thriving, again suggesting it as an antecedent of thriving at work (Levy, 2016). While these studies suggest that PsyCap may be an antecedent of thriving at work, the role of the resilience component of PsyCap and its relationship to thriving at work is still unclear.

The only other relevant quantitative study found was by Flinchbaugh et al. (2015). They surveyed 189 US university undergraduates enrolled in an organizational behavior course to investigate the potential impact of resilience and thriving at work on the relationship of stressors with life satisfaction. They showed, again via structural equation modelling, that thriving mediated the relationship between stressors and life satisfaction, and that resilience moderated that relationship. This study's population is not working professionals, and it did not focus directly on the relationship between resilience and thriving at work. However, it illustrates the potential complexity of the relationship between resilience and thriving at work and other factors relevant to working professionals.

Nekooee et al. (2020) identified resilience as a potential antecedent of thriving at work via an exploratory sequential mixed-methods approach. Initially they conducted semi-structured interviews with 22 university faculty members at three Iranian universities, selected to be relevant by speciality and field of study (e.g., HR and organisational behaviour, industrial and organisational psychology, leadership and human behaviour, business management and organisational behaviour). They classified the antecedents of thriving at work identified via these interviews into six themes according to the type of resource: task, developmental, social, team and cultural, personal and organisational resources. Their subsequent quantitative phase used structural equation modelling to confirm their conceptual model of how the different factors interrelated. It showed that resilience, as a component of personal resources, was a potential antecedent of thriving at work.

Kaye-Kauderer et al. (2021) in their review "Resilience in the age of COVID-19" suggest that "Resilience operates both to combat the development of mental illness and to promote a state of thriving and well-being." (p. 166), implying that resilience might be an antecedent of thriving, but not the same as thriving. However, they do not provide any specific evidence supporting this statement.

No other research was found exploring the relationship between resilience and thriving at work. Factors influencing or influenced by resilience or thriving at work might be related to

either or both, or be mediators or moderators in the relationship, but no research has yet been done to clarify this.

4.2 Overlaps in Factors Relating to Resilience and Thriving at Work

While there is almost no research into the relationship between resilience and thriving at work, there is plenty of research into them individually (as summarised in Chapter 2). There have been multiple recent meta-analyses and structured reviews (e.g., Hartmann et al., 2020; Kleine et al., 2019) that summarise many factors that have been shown to influence resilience and/or thriving at work (antecedents) or result from each (outcomes). Reviewing these meta-analyses and structured reviews in the literature review highlighted both the large number of potential factors involved and that there was considerable overlap in the factors identified for the two constructs.

4.2.1 Possible Antecedents and Outcomes for Thriving at Work

The literature highlights the complexity and range of factors that may be antecedents or outcomes of thriving at work, both at the individual and organisational level. Many different factors have been researched, and more have yet to be looked at (Kleine et al., 2019). Almost all the studies to date adopted the definition of thriving at work suggested by Spreitzer et al. (2005), that thriving at work is a state of involving a sense vitality and learning.

A number of recent reviews of the thriving at work literature have each developed a summary framework of its antecedents and outcomes, including a recent integrative multilevel review of thriving at work by Goh et al. (2022), along with several explorations or reviews of antecedents, mediators and/or consequences (D. Liu et al., 2021; Nekooee et al., 2020; Shahid et al., 2021; Walumbwa et al., 2018) and a detailed meta-analysis by Kleine et al. (2019).

Walumbwa et al. (2018) investigated antecedents and consequences of thriving at work and proposed a model examining both “contextual and individual factors that facilitate thriving at work” (p. 249) across both collective and individual thriving at work. They hypothesise that servant leadership (“a group-oriented and positive leadership approach that entails demonstrating behaviors that underscore the well-being of group members” (Walumbwa et al., 2018, p. 251)) and core self-evaluations (“fundamental assessments that people make about their worthiness, competence, and capabilities” (Judge et al., 2005, p. 257), including self-esteem, self-efficacy and neuroticism) might lead to thriving at work, and that expected outcomes from thriving at work include employee commitment to the organisation, employee positive health, team organisational commitment and team performance.

Kleine et al. (2019) conducted the most recent meta-analysis of thriving at work. They identify a range of factors that may support thriving at work grouped as individual characteristics (including PsyCap, core self-evaluations, proactive personality, positive and/or negative affect and perceived stress) and relational characteristics (including heedful relating, supportive coworker behaviour, workplace civility or incivility, supportive leadership behaviour, empowering or transformational leadership and leader-member exchange (LMX, “the quality of the relationship between a leader and a follower” (Martin et al., 2016, p. 67)). They identify 9 outcomes of thriving at work, in grouped in three areas: health (subjective health and mitigating burnout), attitudes (job satisfaction, commitment, positive attitudes towards self-development and turnover intentions), and performance factors (task performance, organisational citizenship behaviour and creative performance). Their subsequent investigation into the impact of thriving at work on employee health confirmed the link with self-rated physical and mental health, although they highlight that further research is needed to clarify the mechanisms and boundary conditions of the relationship. (Kleine et al., 2023).

Shahid et al.’s review of thriving at work (2021) integrates research on employee thriving between 2005 and 2020, summarising antecedents and outcomes that have been identified and studied up to 2020. Their model suggests that both individual and organisational factors support thriving at work: with transformational leadership supporting agentic work behaviours supporting thriving at work simultaneously with organisational virtuousness leading to psychological empowerment supporting thriving at work. They also suggest PsyCap as an *outcome* of thriving at work, which then leads to innovative work behaviours which they state are “often the foundation of high performing organisations” (p. 95). This might place resilience as an outcome of thriving, rather than as an antecedent, but again the research has not focused specifically on resilience and is unclear.

The most recent review into thriving at work (Goh et al., 2022) develops a framework showing antecedents and outcomes of thriving at work. They outline a variety of possible factors that may support individual thriving, which they group into six categories: agentic work behaviours, individual differences, job demands and resources, organisational practices, workplace relationships and leadership. They group potential consequences of thriving into three categories: health and wellbeing, job attitudes and career development, and performance. They also suggest that aspects of leadership and team characteristics may support collective or group thriving, and that collective performance may increase as a result. Their structured review considered all types of research including theoretical, qualitative, mixed methods, quantitative

and other reviews, rather than a meta-analysis, so there is no clear indication of relationships between factors or their strength. Whilst their clustering may differ slightly, many of the identified factors overlap with the findings in the other published reviews, although they add additional factors such as professional identity and perceived employability. Despite the addition of these factors, their model does not capture all the factors identified in a recent review of the antecedents of thriving at work (D. Liu et al., 2021), which includes an extensive list of 45 potential factors that have been studied as influencing thriving at work.

Finally, while this research is focused on possible work-related consequences of thriving at work, other researchers have been looking at the potential non-work-related outcomes of thriving at work. Thriving *from* work is defined as “the state of positive mental, physical, and social functioning in which workers' experiences of their work and working conditions enable them to thrive in their overall lives, contributing to their ability to achieve their full potential at work, at home, and in the community” (Peters et al., 2021, 2023). Peters et al. (2021, 2023) show that the value of thriving at work is greater than that experienced by the individual at work and their organisation, as it also flows into an employee’s life outside work.

The above research illustrates that thriving at work can impact crucial important outcomes for employees, in particular their mental and physical health and career enjoyment and development, along with their wellbeing and thriving outside work. In addition, thriving at work has been shown to provide major benefits to organisations through increased performance (including higher job performance and greater creativity) and lower costs (both from reduced turnover and lower health costs due to less burnout and higher physical health in employees).

Across all these reviews tens of potential factors have been identified as contributing to or resulting from (or both) of thriving at work. No one factor or set of factors has been identified as essential, rather a variety of factors may come into play in different circumstances and the organisational context is critical (Porath et al., 2022; Spreitzer et al., 2005; Spreitzer & Sutcliffe, 2007).

4.2.2 Possible Antecedents and Outcomes for Resilience at Work

Many researchers have suggested potential antecedents of resilience in multiple situations (not just a work environment) but have not created a specific model of the exact nature of the relationships between factors (see Chapter 2). Helmreich et al. (2017) reviewed and analysed the literature to identify 16 psychosocial factors that are potentially ‘determinants of resilience’ (p. 26), for individuals, including: active coping, self-efficacy, optimism, social

support, cognitive flexibility, religiosity/spirituality, positive affect, hardiness, self-esteem, meaning in life, sense of coherence, internal locus of control, coping flexibility, hope and humour. They categorised the evidence for each of these factors across studies and different populations.

Multiple other promotive and protective factors have been identified by resilience researchers looking at non-psychosocial factors, including physical health and fitness, mindfulness, community/family support, social justice and financial wellbeing. In particular, Ungar and Theron (Ungar & Theron, 2020) identify and categorise multiple promotive and protective factors outside the individual, including significant others and social networks, family and community systems, justice systems, spiritual or cultural belief systems, mastery motivation and other reward systems, effective schools and education system and community systems and cultural rituals.

While there is less research specifically focused on resilience in an organisational context (King et al., 2016), Tonkin et al. (2018) suggest that there are three organisational level enablers for employee resilience: “leadership (supportive supervision), learning culture, and a supportive work environment (supportive team and organization)” (p. 109). They posit that individual resilience can be built via interventions focusing on building wellbeing. They base their intervention on the five ways to wellbeing identified by Aged et al. (2008): connect, be active, take notice, keep learning and give. They also suggest that employee health and energy levels would result from increased resilient workplace behaviours.

Hartmann et al. (2020) attempted to synthesise existing research on resilience at work in their multilevel review. They categorise factors that potentially support individual resilience at work into five areas: personality traits and cultural value orientations, personal resources, attitudes and mindsets, emotions, and work resources and demands. They categorise potential outcomes of resilience into four areas: performance (including job performance and organisational citizenship behaviour), mental and physical health (including reduced burnout, improved mental health, and physical health), work-related attitudes (such as job satisfaction, organisational commitment and work engagement) and change-related attitudes (such as openness to organisational change). Hartmann et al. (2020) also found individual resilience as a moderator between negative experiences at work and performance, health and attitudes..

Liu et al. (2020, p. 8) in their comprehensive review of resilience interventions classified the outcomes measured in the included 268 studies (in any setting, not just work) into 7

categories: changes in actions or behaviours (e.g., sleep disturbances), biophysical changes (e.g., Body Mass Index), coping strategies (e.g., emotion regulation strategies), emotional changes (e.g., happiness or anger as affective states), symptoms (e.g., anxiety, depression, pain) and wellbeing psychosocial factors (e.g., quality of life, energy, social support) in addition to resilience itself (as assessed through resilience questionnaires). 47 of these studies were targeted at occupational settings. Although they did not distinguish the outcomes specific to interventions at work, they do mention that there were meaningful effects in occupational settings for interventions focusing on mindfulness, psychoeducation, social support, evidence-based approaches (e.g., Cognitive Behavioural Therapy). They also comment that “there are no universal, band-aid approach to resilience interventions” (p. 11), again emphasising the importance of contextual factors on types and extent of benefits experienced.

The literature indicates that resilience at work is beneficial for both employees and organisations in multiple ways. For employees, resilience at work is associated with higher wellbeing and better physical health, along with reduced depression, anxiety and burnout. For organisations, employees’ resilience at work is linked to higher performance and lower costs. Clearly there is considerable overlap between the outcomes related to resilience at work, and those related to thriving at work described in the previous section.

Again, across all these reviews and meta-analyses, tens of factors have been identified as potentially impacting or supporting resilience at work, and/or resulting from resilience at work. Also, the situation is complicated by the fact that no one factor has been shown to make a major difference to resilience (Southwick et al., 2014). Both King et al. (2016) and Hartmann et al. (2020) call for much more research into resilience in the workplace, suggesting that other factors may exist but not yet been studied, similar to the situation for thriving at work.

4.3 Study 1: Are Resilience and Thriving at Work the Same? A Quantitative Assessment

The literature discussed in Chapter 2 suggested that while resilience and thriving at work overlap, they are distinct (e.g., Spreitzer et al., 2005). However, the above review of existing research relating to resilience and thriving at work suggested that the overlap could be substantial. Therefore, the first empirical study in this research focused on statistically quantifying the level of overlap between resilience and thriving at work for individuals in desk-based occupations. This study was also used to test the overlap between thriving at work and wellbeing, as discussed in section 2.1.3.

An online questionnaire with validated measures of resilience, thriving at work and wellbeing was used to provide data for statistical analyses including correlations and linear regression, to examine the levels of overlap between the measured constructs.

4.4 Study 1 Methods

4.4.1 Design

This was a correlational study using an online questionnaire – participants completed measures of resilience, thriving and well-being (for comparison).

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number aLMS/PGR/UH/04986(1).

4.4.2 Participants

Participants had to be employed (either full or part time), working for a company with 10+ employees, not customer-facing, and not working for any UK services such as the police, NHS, fire service or similar organisations. These conditions were to ensure as far as possible that they were desk-based workers.

Initially, participants were recruited to take the questionnaire via a convenience sample using a snowball method via contacts of the researcher and LinkedIn. This resulted in 67 valid participants completing the questionnaire. As discussed in Chapter 3 (section 3.3.4 on page 39), it was felt that a wider sample of participants would give greater power to the statistical analysis, so the decision was taken to use Prolific, an online platform specialising in recruiting vetted research participants. In Prolific, participants were pre-screened to ensure they met the study criteria. Prolific was also set to ensure equal numbers of male and female responses.

Data from the two groups of respondents, snowball sample and Prolific, were compared using a Mann-Whitney U test for each measure (details in Appendix E). These showed no significant difference in the scores across the measures, so the two samples were combined into a single dataset of 310 participants for the rest of the analysis.

4.4.3 Questionnaire Design

Many measures were considered for resilience at work (see Appendix F). As mentioned in section 2.2.3 on page 22, many different measures have been developed for both resilience and resilience at work (Fisher & Law, 2021; Norouzinia et al., 2020; Sanhokwe & Takawira, 2022; Windle et al., 2011). The Brief Resilience Scale (BRS) (B. W. Smith et al., 2008) was

selected for this study. It is one of the top scales suggested by Windle et al. (2011) and one of the most frequently used scales identified by Liu et al. (2020) in their meta-analysis of resilience interventions. It is also one of the most frequently used scales to measure resilience at work (Hartmann et al., 2020). Specific resilience at work scales were considered but not selected, as most have only been used in a handful of studies, and are quite long (Hartmann et al., 2020; J. J. W. Liu et al., 2020; Näswall et al., 2019; Windle et al., 2011; Winwood et al., 2013). As this was the first in a planned series of studies, a short measure was selected to attract and keep the interest of participants, maximise the likelihood of accurate answers, and minimise the length of subsequent questionnaires (Stanton et al., 2002) while giving consistency across the planned studies.

The Thriving at Work (TAW) measure (Porath et al., 2012) was selected as the scale used for thriving at work, because it was created specifically to measure the construct as defined in Spreitzer et al. (2005)'s theory of thriving at work adopted in this research. The other thriving measures considered (e.g., Complete Inventory of Thriving, (Su et al., 2014)) did not fit well with the definition of thriving at work used in this PhD (see section 2.1.4 on page 13), and were also not strongly adopted by researchers, whereas the TAW measure has been used in many studies (Kleine et al., 2019).

Given that thriving and wellbeing are often considered similar, as explained in Chapter 2, a measure of wellbeing was also included in the questionnaire (see discussion in Chapter 3). A short wellbeing measure was needed (Stanton et al., 2002). 2 items of the ONS4 (ONS, 2019) questionnaire were therefore chosen to measure wellbeing: one asking about satisfaction with life, and one if life is worthwhile. These items were chosen according to the recommendation by VanderWeele et al. (2020) in their review of wellbeing measures, as they “have been used extensively, have broad conceptual coverage and [...] show some of the highest and most consistent correlations with much broader well-being measures” (p. 3). The two questions were treated as separate for this study (Office for National Statistics, 2021; VanderWeele et al., 2020).

Therefore, the survey included consent information and the following validated measures:

Thriving at work: The Thriving at Work Scale (TAW) (Porath et al., 2012) 11 items;

Resilience: The Brief Resilience Scale (BRS) (B. W. Smith et al., 2008) 6 items;

Wellbeing: Two questions from the ONS4 Wellbeing questions (ONS, 2019; VanderWeele et al., 2020) 2 items.

The survey concluded with demographic questions: age range, gender, country, and ethnicity; and questions about work: area of work, full/part time, manager (yes/no), how long at current job, and level of job stress.

Participants were requested to enter their email address if they were willing to be interviewed for a subsequent qualitative exploration of how desk-based workers experience resilience and thriving at work (see Chapter 6).

When the study was run via Prolific, prolific pre-screening questions were added to the beginning of the questionnaire to ensure that participants met the study criteria: employed (either full or part time), working for a company with 10+ employees, not customer-facing, and not working for any UK services such as the police, NHS, fire service or similar organisations. Attention questions were added to the thriving at work and brief resilience scales (e.g., “Select Agree as the answer to this question. This is an attention check.”), as suggested by Prolific (Prolific.com, 2023). Participants who failed two or more attention questions were automatically removed from the study while it was open. Participants who failed one attention question were manually removed after the study closed to participants.

4.4.4 Hypotheses

Two hypotheses were tested:

Hypothesis H₁: *Resilience (BRS) and thriving at work (TAW) are not the same construct.*

Hypothesis H₂: *Thriving at work (TAW) and wellbeing (ONS) are not the same construct.*

4.4.5 Procedure

The online survey was initially administered in June to August 2022 via the snowball method, and then administered via Prolific in November 2022. Participants accessed the online questionnaire using a link to Qualtrics from either LinkedIn (snowball method) or Prolific. The resulting quantitative data were loaded into SPSS and analysed via descriptive statistics, correlations and regressions to test the hypotheses above.

4.5 Study 1 Results

4.5.1 Demographics

Initially, 67 people answered the survey via the convenience/snowball sample. Another 243 participants met the study criteria and failed no attention checks in Prolific, giving a total of 310 participants. These 310 participants ranged in age from 18 to 74 with 33% between 25 and 34, and 29% between 35 and 44. They were predominantly white (90%), with the remainder

Asian (6%), Black (2%) or Mixed/Other (1%). 54% were managers. 97% worked full time. 37% had been in their current role for 5+ years, 20% between 1 and 2 years and 16% less than a year. See detailed demographic information in Appendix G.

4.5.2 Internal Consistency of Measures

The Cronbach alpha coefficient was .94 for the TAW and .90 for the BRS, indicating very good internal consistency for this sample. The ONS wellbeing questions were treated separately in this study, so the Cronbach alpha coefficient is not applicable. See details in Table 2 below. The high result ($\alpha=.94$) for the TAW scale is in line with that seen when the scale was developed (Porath et al., 2012) and further studies (e.g., Chang et al., 2020; Chénard-Poirier et al., 2022; Moore et al., 2021; Zhai et al., 2020), so was not considered problematic.

Table 2: Internal Consistency of Measures in Study 1

Measure	Cronbach's Alpha	No of Items
Thriving at work scale (TAW)	0.94	11
Brief resilience scale (BRS)	0.90	6

4.5.3 Data Normality

Investigating the data using descriptive statistics indicated that there were few outliers and the 5% Trimmed mean was not very different from the mean for each measure, so outliers were retained (Pallant, 2016, p. 65; Tabachnick & Fidell, 2013, p. 77). Tests for normality (Table 3 below) suggested that the data were not normally distributed (Kolmogorov-Smirnov statistic $p<.001$ for all measures), but this is not unusual in larger samples (Pallant, 2016, p. 63; Tabachnick & Fidell, 2013, p. 80). All measures were skewed positively. However, given the sample is large, skewness and kurtosis should not make “a substantive difference to the analysis” (Tabachnick & Fidell, 2013, p. 80). Inspecting the histograms resulted in judging that the data were sufficiently normally distributed to use Pearson product-moment coefficients for correlations and regressions. See descriptive information and histograms in Appendix H.

Table 3: Normality Tests for Study 1

	N	Min.	Max.	Mean	SD	Skewness		Kurtosis		Kolmogorov-Smirnov ^a		
						Stat.	Std. Error	Stat.	Std. Error	Stat.	df.	Sig.
Thriving at Work	310	1.09	6.91	4.60	1.21	-0.54	0.14	-0.35	0.28	0.08	310	<.001
Resilience	310	1.17	5.00	3.30	0.78	-0.43	0.14	-0.45	0.28	0.11	310	<.001
ONS Satisfaction with Life	310	0	10	6.55	1.85	-0.80	0.14	0.55	0.28	0.19	310	<.001
ONS Life is Worthwhile	310	0	10	6.73	1.95	-0.71	0.14	0.31	0.28	0.16	310	<.001

^a. Lilliefors Significance Correction

4.5.4 H₁: Resilience (BRS) and Thriving at Work (TAW) are not the Same Construct

This hypothesis was tested using Pearson product-moment correlation coefficients. See details in Table 4 below. There was a statistically significant correlation between thriving at work and resilience ($r=.37, n=310, p<.01$), so higher levels of resilience are somewhat associated with higher levels of thriving at work. This is a medium correlation (using Cohen (1998)’s interpretation as quoted in Pallant, 2016, p. 140), suggesting that while the constructs are related, they are not the same.

Table 4: Pearson Product-Moment Correlations between variables in Study 1

	TAW	BRS	ONS LS	ONS W
Thriving at Work (TAW)	1			
Resilience (BRS)	.37**	1		
ONS Satisfaction with Life (ONS LS)	.59**	.39**	1	
ONS Life is Worthwhile (ONS W)	.60**	.36**	.80**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Standard linear regression was then used to explore the potential variation of thriving at work explained by resilience or vice-versa. Preliminary analyses indicated no violations of assumptions of normality, linearity, and homoscedasticity (See Appendix H for details). R² was .14, suggesting that 14% of the variation in thriving at work can be explained by resilience. The significance of the regression was $p <.001$, suggesting that the regression model statistically significantly fits the data, so resilience statistically significantly predicts thriving at work. The regression equation between the two variables was

Thriving at work = $1.973 + .027(\text{Resilience})$. Since only two variables were involved, the situation could equally easily be interpreted as thriving at work explaining 13.5% of the variance in resilience, again with significance of $<.001$. In this case the regression equation between the two variables was $\text{Resilience} = 2.209 + .238(\text{Thriving at work})$.

4.5.5 H₂: Thriving at Work (TAW) and Wellbeing (ONS) are Not the Same Construct

This hypothesis was also tested using Pearson correlations. As shown in Table 4 above, there was a statistically significant strong correlation between thriving at work and each of the ONS wellbeing questions ($r = .59$ and $.60$, $n = 310$, $p < .01$). R^2 was $.34$ and $.36$ respectively, suggesting that thriving at work explains 34% of the ONS satisfaction with life score, and 36 % of life is worthwhile score, or vice versa.

4.6 Study 1 Discussion

The results of the above quantitative analysis confirm the suggestions in the literature (see 2.3 on page 25) that while resilience and thriving at work are related, they are not the same construct. The overlap is moderate, suggesting that people who are more resilient are slightly more likely to also be thriving at work and vice-versa. One construct can predict about 13.5 % of the variance of the other. Since the statistical analysis is only correlational, it cannot tell whether resilience is an antecedent or outcome of thriving at work.

The level of correlation found, $r = .37$, is less than Paterson et al. (2014) found in their examination of the impact of psychological capital (PsyCap) on thriving at work ($r = .45$). This is to be expected, given that the theory of psychological capital (Luthans, 2002; Luthans & Youssef-Morgan, 2017) suggests that PsyCap should have more impact than its components individually.

The strong correlation of thriving at work with the ONS wellbeing questions does suggest a stronger overlap between thriving at work and wellbeing than between resilience and thriving at work. This is not unexpected based on the literature, as discussed in section 2.1.3 on page 12. The two terms are often used interchangeably both in research and in real life. Despite the strong correlation, there are still differences in the constructs, particularly as defined by the ONS wellbeing questions asked in this study. Life satisfaction and whether people consider their life worthwhile are not the same as vitality, “the positive feeling for having energy available” (Spreitzer et al., 2005, p. 538) which is part of the definition of thriving at work (Spreitzer et al., 2005).

4.6.1 Limitations of this study

Participants were recruited via a convenience sample using first a snowball approach and then Prolific. They self-selected to participate in the study. Therefore, they may not be representative of a general population. Most participants were from the UK, but even there they are unlikely to be representative of the UK population, given the overwhelmingly white nature of the participants.

All measures were self-report, and therefore the responses may be subject to bias and social desirability.

4.7 Review of Antecedents and Outcomes of Resilience and Thriving at Work

The literature review and Study 1 described above confirmed that while resilience and thriving at work are related, they are not the same construct. As outlined above, many factors have been identified in the existing research as affecting, supporting or resulting from resilience and thriving at work. Many similar or identical variables have been identified for both resilience and thriving at work. Some factors have been identified as antecedents of one and outcomes of the other, or vice versa, or as both antecedents and outcomes of one or both. Reviewing the literature summaries earlier in this chapter suggest that a variety of individual, relationship or organisational factors might influence both resilience and thriving at work (e.g., positive affect and physical activity and several types of positive leadership). Similarly, several factors might result from either or both, such as increased performance and mental health.

The researcher therefore decided to create a full list of all the factors across both resilience and thriving at work listed in each of the meta-analyses and reviews, which could then be examined for overlaps. While this list was unlikely to be complete, as other potential factors impacting resilience and/or thriving at work have been theorised but not yet researched, it might still shed light on the nature of how resilience and thriving at work might be related.

4.8 Review Methods

Structured reviews and meta-analyses into resilience at work and thriving at work were identified during the literature review, via online searches of academic databases. Reviews were found using combinations of search words including “meta-analysis” “structured review” “resilience” “resilience at work” and “thriving at work”. In addition, the researcher included information from sources suggested by her previous studies in positive psychology, including a book and unpublished work by well-known resilience researchers (Southwick & Charney, 2018; Ungar, 2019).

4.8.1 Materials

- Five reviews and meta-analyses of thriving at work (Goh et al., 2022; Kleine et al., 2019; D. Liu et al., 2021; Nekooee et al., 2020; Shahid et al., 2021).
- Nine reviews and meta-analyses or other sources of information about resilience at work (Connor & Davidson, 2003; Hartmann et al., 2020; Helmreich et al., 2017; Masten & Barnes, 2018; Meredith et al., 2011; Southwick et al., 2014; Southwick & Charney, 2018; Ungar, 2019; G. Wu et al., 2013).

4.8.2 Procedure

The researcher reviewed each of the source materials in detail, listing every factor identified as an antecedent or outcome for resilience or thriving at work in a spreadsheet, with the primary study or studies associated with each outcome noted where available. If the target populations of the source were not purely occupational, factors related to occupational settings were extracted if it was possible to distinguish them.

The researcher then grouped the individual factors together, both to identify duplicates and to ensure similar constructs were considered together. Primary studies were checked, where possible, to ensure definitions of the constructs were similar, and that the context was work. Similar or identical constructs across studies were then amalgamated to give a final list of distinct factors. Factors in the list were then categorised by type: factors personal to the individual, factors related to relationships with others, or factors related to the context/organisation. This was suggested by high level categorisations in the meta-analyses and reviews themselves, along with some of the theoretical frameworks reviewed in Chapter 2 (Goh et al., 2022; Hartmann et al., 2020; Spreitzer et al., 2005). Note that some of the outcomes listed as personal to the individual also have implications for the organisation (e.g., burnout, performance).

Factors that were listed as an antecedent or outcome (or both) of both resilience and thriving – were colour-coded to highlight the overlaps. These common factors were extracted into a separate worksheet. Individual lists of factors that were only shown to be related to one of resilience and thriving at work were also extracted into separate sheets.

4.9 Review Results

A total of 160 distinct factors were identified across the data sources as antecedents or outcomes of resilience or thriving at work (or both). Full details are given in Appendix D.

28 factors were identified as overlapping between resilience and thriving at work. 20 of these factors were listed in the source material as potential antecedents of both resilience and thriving at work. 12 factors were listed as potential outcomes of both resilience and thriving at work. Three factors: work-family enrichment, job satisfaction and work engagement were identified as both antecedents and outcomes for thriving at work, and outcomes for resilience at work and also as antecedents for thriving at work. Job commitment was found to be both an outcome from thriving at work and an antecedent to resilience at work. See the full list of overlapping factors in Table 5 below, categorised by type: contextual, individual or relationship.

Table 5: Factors Identified as Related to Both Resilience and Thriving at Work

Antecedents	Outcomes
Contextual	Individual
Environment facilitating experimentation and exploration - Learning/knowledge sharing culture	Burnout (incl. emotional exhaustion and job strain) (if not resilient or thriving)
Perception of positive organisational context - climate of trust and respect/psychological safety	Career satisfaction
Transformational leadership	Organisational citizenship behaviour
Individual	Organisational commitment
Conscientiousness	Turnover intention (if not resilient or thriving)
Emotional stability	Psychological health
Hope	Task performance
Sense of purpose or meaning/professional mission	Physical health
Optimism or positive attributional style	Work engagement*
Openness to experience	Job satisfaction*
Self-directed/Proactive	Work-family enrichment*
Negative affect (limits resilience or thriving)	(Job commitment – thriving only)*
Positive Affect or Positive Emotions	
Self-efficacy	
(Job commitment – resilience only)*	
(Job satisfaction – thriving only)*	
(Work-family enrichment – thriving only)*	
Relationship	
Connections with well-functioning communities/	
Sense of belonging	
Social support	
Supervisor Support	
(Work engagement – thriving only)*	

*Several factors were identified as both outcomes and antecedents. Work engagement, job satisfaction and work-family enrichment were identified as antecedents and outcomes for thriving at work and also outcomes of resilience at work. Job commitment was identified as both an outcome for thriving at work and an antecedent for resilience at work.

82 distinct factors relating only to thriving at work and not resilience at work were identified in the source materials. See Table 6 below. Of these, three were identified as both

antecedents and outcomes for thriving at work: psychological capital (PsyCap), job crafting, and taking charge. 12 were identified as outcomes only and 67 as antecedents only.

Table 6: Factors Only Associated With Thriving at Work

Antecedents		Outcomes
Contextual	Individual	Contextual
Opportunities to work beyond retirement	Career development	Employee voice
Safe, supportive environment	Disability (limits thriving)	Individual
Autonomy	Heedful relating	Career adaptability
Broad information sharing	Extraversion	Career commitment
Challenge stress	Personality dimensions	Career engagement
Job ambiguity	Prosocial motivation	Career resilience
Job demands appraised as challenges	Political astuteness	Perceived employability
Job includes significant relational responsibilities	Resilience	Creativity
Job requires global working	Task identity	Life satisfaction
Job/role overload	Social functioning	Professional identity
Perceived stress	Exploration	Extra-role behaviours
Perception of job deprivation (limits thriving)	Innovative behaviours	Feedback seeking
Role clarity	Job diversification	Positive attitudes toward self-development
Work control	Job interest	Psychological capital*
Working in a group or team	Proactive personality, personal initiative and exploration	Job crafting*
Authentic leadership	Task focus	Taking charge*
Empowering leadership	Psychological capital*	
Inclusive leaders	Job crafting*	
Servant leadership	Taking charge*	
Independence and freedom of organisational units	Relationship	
Organisational risk-taking culture	Managerial coaching	
Perceived organizational justice	Abusive supervision (limits thriving)	
Perceived organizational support	Feedback	
Recognition	High perceived leader support	
Team-level climate of involvement	Leader-member exchange (LMX)	
Wide information sharing	Paradoxical leader behaviour	
Workplace civility	De-energising relationships	
Workplace incivility (limits thriving)	Interaction with lively and successful people	
Workplace violence (limits thriving)	Involvement in professional associations	
Trust	Relational resources	
Coaching	Supportive coworker behaviour	
Flexible working	Workplace friendship	
High performance work system	Mentoring (giving)	
Integration and coordination of organisational units		
Job design/technology to facilitate workplace relationships		
Knowledge resources		
Learning opportunity		
Training opportunities		

*Three factors were identified as both outcomes and antecedents for thriving at work: Psychological capital, job crafting and taking charge.

50 distinct factors relating only to resilience at work were identified in the source materials, 8 factors as purely outcomes and 41 as purely antecedents. Active coping was identified as both an antecedent and outcome of resilience at work. See the detailed list of factors in Table 7 below.

Table 7: Factors Only Associated With Resilience at Work

Antecedents		Outcomes
Contextual	Individual	Individual
Active coping (e.g., problem-solving, planning)	Accountability (feeling genuinely needed, that what you do matters)	Perception of psychological contract with employer
Basic needs met/Structural resilience in society/ Support systems	Adaptability	Biopsychosocial strain
Ability to effectively manage work demands	Altruism	Career success self-evaluation
Sharing responsibilities at work	Brain fitness ('training to keep mentally sharp')	Openness/commitment to organisational change
Leadership styles	Cognitive flexibility (e.g., positive reappraisal, acceptance of negative situations and emotions)	Cynicism at/about work
Positive command climate incl. leadership	Business confidence	Depression
Resilient role models	Competence needs satisfied	Post-traumatic growth
	Cultural collectivism	Work happiness
	Ethnicity	Active coping*
Relationship	Emotional intelligence/Empathy	
Nurturing-Parenting skills	Expertise related to the job	
Collective efficacy	Financial wellbeing	
Support to and from others	Rights and responsibilities (rights are respected, social justice in your life)	
Communication with others	Future orientation	
Cohesion with unit	Hardiness	
Teamwork within unit	Humour	
	Routines and rituals/Structure in your life	
	Locus of control (internal)	
	Values-driven	
	Trait mindfulness	
	Worry	
	Physical exercise/fitness	
	Self-esteem	
	Self-reflection & reflective communication	
	Sense of coherence	
	Spirituality or calling	
	Spirituality or Sense of calling	
	Past successes	
	Work-Life balance	
	Active coping*	

*Active coping was identified as both an outcome and an antecedent of resilience at work

4.10 Review Discussion

The results confirm important potential benefits of both resilience and thriving at work to both individuals and organisations. While the outcomes identified in the meta-analyses and structured reviews were almost all individual factors, many of those factors are highly valuable to organisations, such as increased performance, lower burnout, reduced turnover intentions, openness to organisational change, creativity and improved mental and physical health.

When considering the common outcomes (Table 5), the identified common factors are very important to individuals. Most people want to be physically and mentally healthy, engaged and satisfied with their work and career, and have work enrich their family life and vice-versa. The listed common outcomes are also of high value to organisations. Organisations want to reduce costs and increase productivity, and the more enlightened also want to see their employees mentally and physically healthy. The common factors all contribute to these goals, by reducing time off, reducing turnover, and increasing performance (Cesário & Chambel, 2017; Faragher et al., 2005; Javed et al., 2014; Katebi et al., 2022; C. I. S. G. Lee et al., 2017; Mazzetti et al., 2023; Rich et al., 2010). The outcomes common to both resilience and thriving at work could be argued to be more important to both individuals and organisations than some of the outcomes identified as relating to only one of the constructs. This could be because these common outcomes have been subject to more research, given their level of importance to individuals or organisations. Other factors might also be common outcomes of both resilience and thriving at work, just not yet researched.

The common factors identified support the theoretical model of thriving at work put forward by Spreitzer et al. (2005) discussed in Chapter 2. This is not unexpected, as many of the reviews and meta-analysis use that model as an organising framework. The common factors also fit with several of the theories identified in Chapter 2 as relevant to resilience, particularly the Job Demands-Resources model (Bakker et al., 2004), the Conservation of Resources theory (Hobfoll, 1989), and the positive organisational behaviour construct of Psychological Capital (Luthans, 2002). Again, this is not surprising, as many of the researchers were examining potential empirical support for those theories.

Far more contextual factors were identified as antecedents for thriving at work compared to resilience at work, and far more individual factors as antecedents for resilience at work than thriving at work. This may be an artifact of the factors that have so far been researched, but it is consistent with thriving at work research across the past two decades, which emphasises the impact of the organisational context on the ability of individuals to thrive at work (Spreitzer et

al., 2012). It is also noticeable that while research into potential antecedents of each construct has focused on contextual, relationship and individual factors, the research into outcomes in the studies covered in these meta-analyses and structured reviews focused almost entirely on individual factors. These individual factors are also likely to be valuable to organisations as discussed above. However, the theories of thriving at work (Spreitzer et al., 2005) and positive organisational behaviour (Luthans & Youssef, 2016; Youssef & Luthans, 2007) suggest organisational level factors could be impacted, such as improved teamwork and a stronger and more positive work culture. Perhaps these factors are harder to measure, but this does not mean they should not be researched. The authors of the structured reviews and meta-analyses listed, and also other researchers (e.g., King et al., 2016; Porath et al., 2022; Spreitzer & Sutcliffe, 2007) suggest that much more research is needed into both resilience and thriving at work to give a full picture of the impact of resilience and thriving at work on organisations, both positive and negative.

Finally, while the studies in the meta-analyses and structured reviews classify factors as antecedents or outcomes, many are purely correlational. Therefore, the direction of the correlations studied cannot be confirmed. While authors of such studies have often suggested factors as antecedents or outcomes based on theory, many of the factors are not confirmed as one or the other by causal studies.

4.11 Summary: The Relationship Between Resilience and Thriving at Work

The examination of existing literature highlighted the dearth of empirical research into the nature of the relationship between resilience and thriving at work (see section 2.3 on page 25). Spreitzer et al. (2005)'s original model of thriving at work suggests that the two constructs are distinct but overlap, and this seems to be accepted by other researchers (Hartmann et al., 2020; Kleine et al., 2019). However, this assumption had not been directly tested in previous research. The quantitative analysis in Study 1, which found a weak-medium correlation ($r=.37$, $n=310$, $p<.01$) between resilience and thriving at work, adds weight to the theory: they are not the same construct, but they do overlap.

The little research that does exist into *how* the constructs might overlap is contradictory: one study suggests that resilience (as part of PsyCap) may be an antecedent of thriving (Paterson et al., 2014), another that PsyCap (and therefore resilience) might be an outcome of thriving at work (Shahid et al., 2021). The review of factors identified as related to both constructs conducted in this research shows overlaps in key factors impacting and impacted by both

resilience and thriving at work, plus many factors that so far have only been shown to be related to one construct or the other. This proliferation of factors may be related to the fact that both resilience and thriving at work have been shown to be highly context dependent (Bundick et al., 2010; J. J. W. Liu et al., 2020; Porath et al., 2022; Ungar, 2017). While attempts have been made to classify the different factors and how they might relate to each construct individually (e.g., Spreitzer et al., 2005; Winwood et al., 2013), no research has yet put forward a model or explanation of how resilience and thriving at work might relate to each other or the common factors that relate to both.

All this implies that the relationship between resilience and thriving at work is likely to be complex, involve multiple factors as mediators or moderators, and be context dependent. The rest of this programme of research focused on exploring how resilience and thriving at work might be related in different ways, starting with quantifying any differences in how they impact factors that had been shown to be common outcomes.

Chapter 5

Differences in Relationships With Common Outcomes

The previous chapter suggested that multiple factors identified as potential common outcomes of both resilience and thriving at work were of high value to both individuals and organisations. However, no research has considered if there might be differences in how resilience and thriving at work are related to these outcomes. This is a critical practical point for both employees and organisations – understanding any differences in the impact of resilience and thriving at work on key outcomes would provide evidence to support decisions about interventions that might have most impact on the outcomes they desire. Without this understanding, it is not clear whether organisations or individuals should focus on improving their resilience or their thriving at work, or both, in order to increase employee physical and mental health, engagement and performance, and reduce organisational costs.

The list of outcomes common to both resilience and thriving at work found in the previous chapter was reviewed. Seven outcomes were chosen to be explored in this study: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing. The other common outcomes identified were either related to other outcomes (e.g., burnout is related to work engagement), were difficult to measure in the context of this study (e.g. physical health) or were considered out of scope (e.g., work-family enrichment – this research focused on the workplace only).

All the chosen outcomes are important to both employees and organisations. Organisations particularly value the first five outcomes listed, because they reduce turnover and increase productivity (Cesário & Chambel, 2017; Faragher et al., 2005; Javed et al., 2014; Katebi et al., 2022; C. I. S. G. Lee et al., 2017; Mazzetti et al., 2023; Rich et al., 2010). Individuals also benefit from all outcomes as they all increase both physical and mental health and wellbeing (Faragher et al., 2005; Mazzetti et al., 2023).

This second empirical study in this research programme therefore explored what differences could be identified in how resilience and thriving at work were related to the seven common outcomes mentioned above, using online questionnaires and partial correlations.

5.1 Study 2 Methods

5.1.1 Design

This was a correlational study using an online questionnaire. All participants completed validated measures of resilience, thriving at work and the seven chosen common outcomes: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number LMS/PGT/UH/05150.

5.1.2 Participants

UK participants were recruited via Prolific, the online platform designed to provide vetted participants for academic research (see section 3.3.4 on page 39). As in Study 1, participants were screened in Prolific to ensure as far as possible that they were desk-based workers. Prolific was also set to ensure equal numbers of male and female responses. The screening questions used in Prolific were confirmed in the Qualtrics survey (see next section) and participants who did not meet the study participation criteria at the time they took the survey were excluded.

5.1.3 Questionnaire Design

Conceptualising and Measuring the Constructs

The measures for thriving at work and resilience were the same as those used in the first study, for the same reasons and to ensure consistency.

The measures and definitions for the other measures were identified by referring to the original studies listed in the meta-analyses and structured reviews reviewed in the work described in the previous chapter. If multiple measures were found for a construct, the criteria for the final measures chosen were that they (a) had been used in multiple previous studies related to the defined construct, especially if they were used in studies analysed in work in the previous chapter; (b) reported good reliability ($r > 0.07$); and (c) were the shortest version available – to keep the survey as short as possible (Stanton et al., 2002).

The following measures were included in the survey:

Thriving at work: The Thriving at Work Scale (TAW) (Porath et al., 2012) 11 items;

Resilience: The Brief Resilience Scale (BRS) (B. W. Smith et al., 2008) 6 items;

Work Engagement: The Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2002; Seppälä et al., 2009) 9 items. Work engagement is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption”. (Schaufeli et al., 2002, p. 74). The UWES-9 measure was used in a number of the studies analysed in Chapter 4, and is a widely used and well-validated measure of work engagement (Knight et al., 2017; Seppälä et al., 2009).

Career Satisfaction: The Career Satisfaction Scale (CS) (Greenhaus et al., 1990) 5 items. Career satisfaction is defined as “individuals’ idiosyncratic evaluations of their own careers” (Spurk et al., 2011, p. 315). This scale was chosen because it is well-validated, well-regarded and has been used in hundreds of studies (Hofmans et al., 2008), including some in the meta-analyses and structured reviews analysed in Chapter 4.

Job Satisfaction: The Job Satisfaction (JS) scale from the Michigan Organizational Assessment Questionnaire (MOAQ-JSS) (Bowling & Hammond, 2008) 3 items; Job satisfaction is defined as “a cognitive and/or affective evaluation of one's job” (Alessandri et al., 2017, p. 207). This scale was chosen to measure Job Satisfaction as it is widely used, short, and clearly distinguishable from the career satisfaction scale above. It has face-validity on the affective aspect of job satisfaction, and it assesses global job satisfaction rather than a variety of different facets of job satisfaction (Bowling & Hammond, 2008).

Organisational Commitment: Three item version (Brockner et al., 2004) of the organizational commitment (OC) scale developed by Mowday, Porter, and Steers (1982) 3 items; Organisational commitment is defined as “the degree to which subjects feel committed to the employing organization” (Porter et al., 1974, p. 605). This version of the OC scale has been shown to be “highly related ($r = .93$) to the short form of the Mowday, Porter, and Steers measure of organizational commitment used widely in prior research” (Brockner et al., 2004, p. 82) and is much shorter.

Task Performance: a single self-reported item asking participants to rank their performance relative to people they know in similar positions on a 10-point scale (Youssef & Luthans, 2007); While a single self-report item was not ideal, it was not possible to access any other performance information as part of this study, since there was no information about or access to participants’ employers. As discussed by Youssef and Luthans (2007), measuring job performance is one of the most difficult challenges in organisational research and practice. They state that “when objective performance measures are unavailable...using multiple measures is

offered as the best alternative” (p. 782). The combination of task performance, job satisfaction and organisational commitment measures used in this study are in line with the suggestions of Youssef and Luthans (2007).

Mental /Psychological Health: The General Health Questionnaire (GHQ-12) (Goldberg et al., 1997; Goldberg & Blackwell, 1970; Hystad & Johnsen, 2020; Makowska et al., 2002) 12 items; This measure was chosen as it is one of the most popular and well-researched measures for psychological distress i.e., a high score suggests low mental health (Gnambs & Staufenbiel, 2018; Hystad & Johnsen, 2020). This scale was designed as a screening tool for mental disturbances or disorders in clinical practice, so it is focused on highlighting the existence of problems, which makes it a useful adjunct for measures of subjective wellbeing, which are generally focused on “people’s overall evaluations of their lives and their emotional experiences.” (Diener et al., 2017, p. 3).

Subjective Wellbeing: ONS4 Personal well-being questions (Office for National Statistics, 2021; VanderWeele et al., 2020) 4 items; This was used both for consistency with the previous study, and because subjective wellbeing is shown as a different construct to that of mental health by the meta-analyses and statistical reviews studied in Chapter 4. In this study the decision was taken to use all four of the ONS Wellbeing questions to measure subjective wellbeing (Office for National Statistics, 2021; VanderWeele et al., 2020) not just two questions. This would measure a broader subjective wellbeing construct while still providing some consistency with the first study. Scores for the four ONS questions were averaged to give a single ONS score, as it was felt that this would provide a good single measure of wellbeing, rather than using four individual scores (VanderWeele et al., 2020).

Survey Design

The survey started with study information, consent information, and prolific pre-screening questions and the above validated measures.

Measures with 6 or more items had an attention question added (e.g., “I am paying attention. Select Strongly Disagree as the answer to this question”), as suggested by Prolific (Prolific.com, 2023). Participants who failed two or more attention questions were automatically removed from the study while it was open. Participants who failed one attention question were manually removed after the study closed to participants.

The survey ended with demographic questions: age range, gender, country, and ethnicity; and questions about work: area of work, full/part time, manager (yes/no), how long at current job, and level of job stress.

5.1.4 Hypotheses

There were two main hypotheses for the study:

H₁: Both resilience and thriving at work are positively related to each of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.

H₂: There is no difference between the relationships of resilience and thriving at work with any of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.

5.1.5 Procedure

The online survey was administered in November 2022. Participants were invited to participate in the study via an email from Prolific which gave information about the study. They accessed the Qualtrics online questionnaire using a link from Prolific.

5.2 Study 2 Results

5.2.1 Demographics

The 288 participants ranged in age from 18 to 74 with 37% between 25 and 34, and 27% between 35 and 44. They were predominantly white (89%), with the remainder Asian (5%), Black (3%) or Mixed/Other (3%). 47% were managers. 92% worked full time. 32% had been in their current role for 5+ years, 29% between 1 and 2 years and 19% less than a year. Detailed demographic information is found in Appendix I.

5.2.2 Internal Consistency of Measures

The Cronbach alpha coefficient was between 0.81 and 0.95 for all measures, indicating very good internal consistency for this sample. See details in Table 8 below. Note that since the measure for performance was a single item, calculating the Cronbach alpha coefficient was not applicable. A similarly high Cronbach alpha coefficient for the TAW as in the previous study was found and considered acceptable for the reasons outlined in the previous chapter.

Table 8: Internal Consistency of Measures in Study 2

Measure	Cronbach's Alpha	N of Items
Thriving at work scale (TAW)	0.95	11
Brief resilience scale (BRS)	0.91	6
Utrecht Work Engagement Scale (UWES)	0.95	9
Career Satisfaction Scale (CS)	0.92	5
Job Satisfaction Scale (JS)	0.90	3
Organisational Commitment Scale (OC)	0.83	3
General Health Questionnaire (GHQ-12)	0.89	12
ONS Wellbeing (ONS)	0.81	4

5.2.3 Data Normality

Investigating the data using descriptive statistics indicated that there were few outliers and the 5% Trimmed mean was not very different from the mean for each measure, so outliers were retained (Pallant, 2016, p. 65; Tabachnick & Fidell, 2013, p. 77). Tests for normality suggested that the data were not normally distributed (Kolmogorov-Smirnov statistic $p < .001$ for all measures), but this is not unusual in larger samples (Pallant, 2016, p. 63; Tabachnick & Fidell, 2013, p. 80). See Table 9. All measures were skewed positively except the mental/psychological health measure (GHQ-12). In this measure a high score indicates a negative result, so the skew is also to the positive result. However, given the sample is large, skewness and kurtosis should not make “a substantive difference to the analysis” (Tabachnick & Fidell, 2013, p. 80). Inspecting the histograms resulted in judging that the data were sufficiently normally distributed to use Pearson product-moment coefficients for correlations and partial correlations. Detailed information and the histograms are in Appendix J.

Table 9: Descriptive Statistics for Measures in Study 2

	N	Min	Max	Mean	SD	Skewness		Kurtosis		Kolmogorov-Smirnov ^a		
						Stat.	Std. Error	Stat.	Std. Error	Stat.	df	Sig.
Thriving at Work (TAW)	288	1	7	4.54	1.26	-0.55	0.14	-0.27	0.29	0.08	288	<.001
Resilience (BRS)	288	1	5	3.39	0.80	-0.35	0.14	-0.24	0.29	0.11	288	<.001
Work Engagement (UWES)	288	0	6	3.33	1.32	-0.51	0.14	-0.30	0.29	0.07	288	<.001
Career Satisfaction (CS)	288	1	5	3.45	0.92	-1.07	0.14	0.67	0.29	0.19	288	<.001
Job Satisfaction (JS)	288	1	5	3.69	0.97	-0.91	0.14	0.34	0.29	0.23	288	<.001
Organisational Commitment (OC)	288	1	5	3.39	0.90	-0.48	0.14	0.01	0.29	0.14	288	<.001
Performance (Perf)	288	3	10	7.32	1.41	-0.48	0.14	0.07	0.29	0.19	288	<.001
Mental/Psychological Health (GHQ-12)	288	1	33	12.09	5.78	1.04	0.14	0.89	0.29	0.14	288	<.001
Wellbeing (ONS)	288	0.8	10	6.80	1.70	-0.72	0.14	0.61	0.29	0.08	288	<.001

^a. Lilliefors Significance Correction

5.2.4 H₁: Both Resilience and Thriving at Work are Positively Related to Each of the Seven Common Outcome Constructs

The relationships between thriving at work, resilience and the seven outcome variables were investigated using Pearson product-moment correlation coefficients (one-tailed), as the data were considered normal. See Table 10 below.

Table 10: Pearson Product-Moment Correlations Between Thriving at Work and Resilience and all Outcome Variables in the First Survey

	TAW	BRS	UWES	CS	JS	OC	Perf	GHQ-12
Thriving at Work (TAW)	-							
Resilience (BRS)	.38**	-						
Work Engagement (UWES)	.88**	.35**	-					
Career Satisfaction (CS)	.66**	.31**	.63**	-				
Job Satisfaction (JS)	.77**	.27**	.79**	.63**	-			
Organisational Commitment (OC)	.67**	.21**	.72**	.47**	.69**	-		
Performance (Perf)	.36**	.35**	.38**	.26**	.30**	.32**	-	
Mental/psychological health (GHQ-12)	-.57**	-.60**	-.52**	-.46**	-.52**	-.35**	-.33**	-
Wellbeing (ONS)	.59**	.55**	.53**	.54**	.48**	.36**	.36**	-.77**

** . Correlation is significant at the 0.01 level (1-tailed).

As expected, there were statistically significant correlations between thriving at work and resilience and each of the other variables (note, a high mental/psychological health (GHQ-12) score implies high psychological distress, so those correlations are negative). The correlations

were noticeably strong or very strong for thriving at work, while only weak for resilience with four outcomes: work engagement, career satisfaction, job satisfaction and organisational commitment. The correlation between resilience and thriving at work ($r=.38$, $n=288$, $p<.01$) is very similar to that found in the previous study ($r=.37$, $n=310$, $p<.01$).

5.2.5 H₂: There is no Difference Between the Relationships of Resilience and Thriving at Work With any of the Seven Common Outcome Constructs.

Partial correlations (one-tailed) were used to explore the relationship of thriving at work with all outcome measures while controlling for resilience (See Table 11 below). The results showed very similarly strong or very strong correlations for thriving at work with work engagement, career satisfaction, job satisfaction and organisational commitment when controlling for resilience. The correlation for thriving at work with performance, mental/psychological health and wellbeing were lower when controlling for resilience. All correlations were statistically significant ($p<.01$).

Table 11: Partial Correlations Between Variables in Study 2 Controlling for Resilience (BRS)

	TAW	UWES	CS	JS	OC	Perf	GHQ-12
Thriving at Work (TAW)	-						
Work Engagement (UWES)	.86**	-					
Career Satisfaction (CS)	.61**	.59**	-				
Job Satisfaction (JS)	.74**	.78**	.60**	-			
Organisational Commitment (OC)	.65**	.71**	.44**	.67**	-		
Performance (Perf)	.26**	.30**	.17**	.23**	.27**	-	
Mental/psychological health (GHQ-12)	-.47**	-.41**	-.35**	-.47**	-.29**	-.15**	-
Wellbeing (ONS)	.50**	.43**	.46**	.42**	.30**	.21**	-.65**

** . Correlation is significant at the 0.01 level (1-tailed).

Partial correlations (one-tailed) were then used to explore the relationship of resilience with all outcome measures while controlling for thriving at work. The correlation between resilience and each of four outcomes: work engagement, career satisfaction, job satisfaction and organisational commitment was almost zero (< 0.1) when controlling for thriving at work. There were slightly lower statistically significant correlations of resilience with performance, mental/psychological health and wellbeing when controlling for thriving at work (see Table 12 below).

Table 12: Partial Correlations Between Variables in Study 2 Controlling for Thriving at Work (TAW)

	BRS	UWES	CS	JS	OC	Perf	GHQ-12
Resilience (BRS)	-						
Work Engagement (UWES)	.03	-					
Career Satisfaction (CS)	.09	.16**	-				
Job Satisfaction (JS)	-.03	.39**	.27**	-			
Organisational Commitment (OC)	-.07	.37**	.06	.38**	-		
Performance (Perf)	.25**	.15**	.04	.05	.12*	-	
Mental/psychological health (GHQ-12)	-.50**	-.02	-.13*	-.16**	.06	-.16**	-
Wellbeing (ONS)	.44**	.02	.25**	.06	-.06	.19**	-.64**

** . Correlation is significant at 0.01 level. * . Correlation is significant at 0.05 level

5.3 Study 2 Discussion

The correlation between resilience and thriving at work ($r=.38$, $n=288$, $p<.01$) is very similar to that found in the first study ($r=.37$, $n=310$, $p<.01$), providing corroborating evidence that the two constructs overlap but are not the same, as discussed in the previous chapter.

As expected, the results from this study support the first hypothesis H₁: *Both resilience and thriving at work are positively related to each of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.* All the variables had been previously identified as being related to both resilience and thriving at work, in the structured reviews and meta-analyses examined in Chapter 4.

There is evidence to partially reject H₂: *There is no difference between the relationships of resilience and thriving at work with any of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.* The lack of correlation between resilience and each of work engagement, career satisfaction, job satisfaction and organisational commitment when controlling for thriving at work (Table 12 above) suggests that they have a different relationship with thriving at work than with resilience. These four constructs have higher correlations with thriving at work than resilience in general (Table 10 above), and there is little difference in the correlations of those variables with thriving at work when controlling for resilience (Table 11 above). This suggests that thriving at work is much more strongly related than resilience to work engagement, career satisfaction, job satisfaction and organisational commitment.

No previous studies had included both resilience and thriving at work measures in studies involving these four variables, so this finding is new and requires verification. A meta-analysis

of work engagement using the job demands-resources (JD-R) model (Mazzetti et al., 2023) identified high correlations between work engagement, job satisfaction ($r=.60$) and job commitment ($r=.63$), so it is not surprising that thriving at work showed similar relationships with all three variables.

This was a purely correlative study, so it is not possible to clarify if thriving at work results in these four outcomes or vice-versa, or if all are related to one or more unidentified underlying variable(s). The variables studied were selected based on their identification as outcomes for both resilience and thriving at work in meta-analyses and structured reviews, as discussed at the beginning of this chapter. However, further research is suggested to confirm the direction of the relationships – ideally, intervention studies that can show causation.

Correlations between resilience and thriving at work and task performance, mental/psychological health and wellbeing showed similar correlations with both resilience and thriving at work. These correlations with resilience were slightly smaller when controlling for thriving at work, and also slightly smaller with thriving at work when controlling for resilience. This provides no evidence to reject the second hypothesis H_2 for these three constructs.

The four outcomes showing a stronger relationship with thriving at work than resilience are all work-specific: work engagement, career satisfaction, job satisfaction and organisational commitment. A general resilience measure had been used in this study (for reasons outlined in sections 4.4.3 and 5.1.3), so the question was raised as to whether this result was an artefact of the measure chosen, rather than a true finding. The researcher therefore decided to replicate the study with additional measures for resilience at work and general thriving (see Study 2b below).

5.3.1 Study 2 Limitations

Participants were recruited via Prolific and self-selected to participate in the study. Therefore, they may not be representative of a standard UK population. Also, results may not be valid for non-UK populations, or non-white UK populations, given the overwhelmingly white nature of the participants.

All measures were self-report, and therefore may be subject to bias and social desirability responses.

The performance measure was a single self-report item – this would be better measured through more objective measures: e.g., performance measures from the organisation or ratings from supervisors.

5.4 Study 2b (Replication Study) Methods

This study was an exact replication of the study outlined above, with the addition of two additional measures: for resilience at work and general thriving (see below). The objective was to identify if the results found above were sustained with a different sample, using the two new measures. The original study is referred to as Study 2 and this replication of that study is referred to as Study 2b.

5.4.1 Design

As in the original study, this was a correlational study using an online questionnaire. All participants completed validated measures of resilience, resilience at work, thriving, thriving at work and the seven chosen common outcomes: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number LMS/PGT/UH/05150(1).

5.4.2 Participants

As in previous studies, UK participants were recruited via Prolific, the online platform designed to provide vetted participants for academic research (section 3.3.4 on page 39). Participants were screened to ensure they were employed (either full or part time), working for a company with 10+ employees, not customer-facing, and not working for any UK services such as the police, NHS, fire service or similar organisations. Prolific was also set to ensure equal numbers of male and female responses. The screening questions used in Prolific were confirmed in the Qualtrics survey (see next section) and participants who did not meet the study criteria at the time they took the survey were excluded.

5.4.3 Questionnaire Design

Conceptualising and Measuring the Constructs

All the measures used in the original study were also used in this study (see section 5.1.3 above). Multiple definitions and measures were considered for resilience at work (Appendix K). The criteria for the final measures chosen were that they (a) had been used in multiple previous studies related to the defined construct; (b) reported good reliability ($r > 0.07$); and (c) were the shortest version available to keep the survey as short as possible (Stanton et al., 2002).

The new measures chosen were:

Resilience at Work: The Resilience subscale (PsyCapR) of the Psychological Capital questionnaire (Luthans et al., 2007) 6 items; This was selected as it is well-validated and widely used (Luthans & Youssef-Morgan, 2017) and was used in the only two studies that have involved measuring both resilience and thriving at work (Paterson et al., 2014; Shahid et al., 2021). It is also much shorter than any of the specific resilience at work measures considered - it has the same number of items as the Brief Resilience Scale already used to measure resilience.

Thriving: The Brief Inventory of Thriving (BIT) (Su et al., 2014) 10 items. While most of the thriving at work studies have been done using the Thriving at Work Scale (Porath et al., 2012), a very small number of studies have used the Comprehensive (CIT) or Brief Inventory of Thriving (BIT) (Brown et al., 2017; Sorgente et al., 2021). The BIT was chosen as a general measure of thriving as the CIT is too long: the BIT has a similar number of items to the Thriving at Work scale.

Survey Design

As in the original study, the survey for Study 2b started with study information, consent information, and prolific pre-screening questions and the above validated measures. Measures with 6 or more items (including the two new scales) had the same attention questions added (e.g., “I am paying attention. Select Strongly Disagree as the answer to this question”), as suggested by Prolific (Prolific.com, 2023). Participants who failed two or more attention questions were automatically removed from the study while it was open. Participants who failed one attention question were manually removed after the study closed to participants. The survey ended with the same demographic questions as the original study: age range, gender, country, and ethnicity; and questions about work: area of work, full/part time, manager (yes/no), how long at current job, and level of job stress.

5.4.4 Hypotheses

The hypotheses for Study 2b were almost identical to those in the previous study, with the only difference being the addition of resilience at work and thriving:

H₁: Resilience, resilience at work, thriving and thriving at work are all positively related to each of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.

H₂: *There is no difference between the relationships of resilience, resilience at work, thriving or thriving at work with any of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.*

5.4.5 Procedure

The online survey took place in October 2023. As in the original study, participants were invited to participate in the study via an email from Prolific which gave information about the study. They accessed the Qualtrics online questionnaire using a link from Prolific.

5.5 Study 2b Results

5.5.1 Demographics

The 284 UK participants in this study did not include any of the participants from the original study. They ranged in age from 18 to 74+ with 33% between 25 and 34, and 27% between 35 and 44. They were predominantly white (90%), with the remainder Asian (7%), Black (1%) or Mixed/Other (2%). 52% were managers. 93% worked full time. 40.5% had been in their current role for 5+ years, 34% between 1 and 3 years, and 7% less than a year. Detailed demographic information is found in Appendix L.

5.5.2 Internal Consistency of Measures

The Cronbach alpha coefficient was between 0.81 and 0.95 for all measures, indicating very good internal consistency for this sample. See details below in Table 13. Since the measure for performance was a single item, calculating the Cronbach alpha coefficient was again not applicable.

Table 13: Internal Consistency of Measures in Study 2b

Measure	Cronbach's Alpha	N of Items
Thriving at work scale (TAW)	0.95	11
Brief Inventory of Thriving (BIT)	0.93	10
Brief resilience scale (BRS)	0.91	6
PsyCap resilience subscale (PsyCapR)	0.82	6
Utrecht Work Engagement Scale (UWES)	0.95	9
Career Satisfaction Scale (CS)	0.92	5
Job Satisfaction Scale (JS)	0.90	3
Organisational Commitment Scale (OC)	0.83	3
General Health Questionnaire (GHQ-12)	0.89	12
ONS Wellbeing (ONS)	0.81	4

5.5.3 Data Normality

Data normality tests gave similar results as those obtained as in Study 2 (see Table 14), so again the size of the sample resulted in the data being judged sufficiently normally distributed to use Pearson product-moment coefficients for correlations and partial correlations. Detailed information and the histograms are in Appendix M.

Table 14: Descriptive Statistics for Measures in Study 2b

	N	Min	Max	Mean	SD	Skewness		Kurtosis		Kolmogorov-Smirnov ^a		
						Stat.	Std. Err.	Stat.	Std. Err.	Stat.	df	Sig.
Thriving at Work (TAW)	284	1	7	4.57	1.28	-0.59	0.14	-0.21	0.29	0.08	284	<.001
Thriving (BIT)	284	1	5	3.54	0.71	-0.78	0.14	0.55	0.29	0.15	284	<.001
Resilience at Work (PsyCapR)	284	11	36	26.91	4.35	-0.39	0.14	0.48	0.29	0.08	284	<.001
Resilience (BRS)	284	1	5	3.33	0.91	-0.41	0.14	-0.49	0.29	0.12	284	<.001
Work Engagement (UWES)	284	0	6	3.39	1.27	-0.49	0.14	-0.33	0.29	0.07	284	<.001
Career Satisfaction (CS)	284	1	5	3.47	0.96	-0.88	0.14	0.28	0.29	0.17	284	<.001
Job Satisfaction (JS)	284	1	5	3.64	1.01	-0.94	0.14	0.33	0.29	0.24	284	<.001
Organisational Commitment (OC)	284	1	5	3.30	0.91	-0.36	0.14	-0.19	0.29	0.13	284	<.001
Perf.	284	3	10	7.51	1.35	-0.38	0.14	0.20	0.29	0.18	284	<.001
Mental/psychological Health (GHQ-12)	284	4	36	12.92	6.38	1.10	0.14	0.91	0.29	0.16	284	<.001
Wellbeing (ONS)	284	0.3	10	6.40	1.89	-0.52	0.14	-0.12	0.29	0.08	284	<.001

^a. Lilliefors Significance Correction

5.5.4 H₁: Resilience, Resilience at Work, Thriving and Thriving at Work are all Positively Related to Each of the Seven Common Outcome Constructs.

As in Study 2, the relationships between thriving, thriving at work, resilience, resilience at work and the seven outcome variables were investigated using one-tailed Pearson product-moment correlation coefficients, as the data were considered normal. See Table 15 below.

As expected, there was a moderate to strong correlation between resilience (BRS) and resilience at work (PsyCapR) ($r=.64, n=284, p<.01$), and between thriving at work (TAW) and general thriving (BIT) ($r=.70, n=284, p<.01$). The correlation between resilience (BRS) and thriving at work (TAW) ($r=.43, n=284, p<.01$) was slightly higher than that found in Study 2 ($r=.38, n=288, p<.01$). The correlation between resilience at work (PsyCapR) and thriving at work (TAW) was even higher than that, but still moderate ($r=.51, n=284, p<.01$). This is not entirely surprising, given the common work context might have an impact on the correlation.

Having said that, the correlation of both resilience at work (PsyCapR) and general resilience (BRS) with general thriving (BIT) is similar ($r=.54$ and $r=.51$, $n=284$, $p<.01$).

There was a strong, statistically significant correlation between wellbeing (ONS) and thriving at work (TAW) ($r=.64$, $n=284$, $p<.01$). There was a moderate negative correlation between mental/psychological health (GHQ-12) and thriving at work (TAW) ($r=-.56$, $n=284$, $p<.01$). These correlations, as in study 2, could be expected from the literature on thriving at work and wellbeing (see section 2.1.3).

There was an extremely strong correlation between wellbeing (ONS) and thriving (BIT) ($r=.79$, $n=284$, $p<.01$). and a slightly less strong correlation found between mental/psychological health (GHQ-12) and thriving (BIT) ($r=.69$, $n=284$, $p<.01$).

Table 15: Pearson Product-Moment Correlations Between all Variables in Study 2b

	TAW	BIT	Psy CapR	BRS	UWES	CS	JS	OC	Perf	GHQ- 12
Thriving at Work (TAW)	-									
Thriving (BIT)	.70**	-								
Resilience at Work (PsyCapR)	.51**	.54**	-							
Resilience (BRS)	.43**	.50**	.65**	-						
Work Engagement (UWES)	.88**	.64**	.52**	.38**	-					
Career Satisfaction (CS)	.66**	.67**	.46**	.38**	.64**	-				
Job Satisfaction (JS)	.76**	.53**	.38**	.29**	.81**	.60**	-			
Organisational Commitment (OC)	.70**	.53**	.36**	.28**	.77**	.58**	.75**	-		
Performance (Perf)	.32**	.25**	.42**	.24**	.38**	.24**	.27**	.29**	-	
Mental/psychological Health (GHQ-12)	-.56**	-.69**	-.51**	-.56**	-.50**	-.45**	-.44**	-.34**	-.32**	-
Wellbeing (ONS)	.64**	.79**	.49**	.54**	.55**	.55**	.49**	.40**	.25**	-.75**

** . Correlation is significant at the 0.01 level (1-tailed).

Similar results to those in Study 2 were seen for the Pearson product-moment correlations between thriving at work, resilience, thriving and resilience at work and all the outcome variables. The correlations between both thriving measures and the outcomes of work engagement, career satisfaction, job satisfaction and organisational commitment were again noticeably stronger than those between both resilience measures and these outcomes. The correlation between thriving at work and these four measures were particularly strong ($r=.88$, $.66$, $.76$ and $.70$, $n=284$, $p<.01$). There was a higher correlation between performance and both the ‘at work’ measures than between performance and either of the non-work measures.

5.5.5 H₂: There is no Difference Between the Relationships of Resilience, Resilience at Work, Thriving or Thriving at Work With any of the Seven Common Outcome Constructs

Partial correlations (one-tailed) were used to explore the relationship of thriving at work (TAW) and thriving (BIT) with all outcome measures, while first controlling for resilience at work (PsyCapR) (see Table 16) and then controlling for resilience (BRS) (see Table 17).

As in Study 2, the results show similar but slightly lower correlations between both thriving and thriving at work and work engagement, career satisfaction, job satisfaction and organisational commitment when controlling for resilience at work (PsyCapR) (See Table 16). The correlation between performance and thriving at work is very weak and only significant at the .05 level, and the correlation between performance and thriving is almost zero, when controlling for resilience at work. Correlations between both thriving and thriving at work and mental/psychological health (GHQ-12) and wellbeing (ONS) controlling for resilience at work are similar to, albeit slightly lower than, the correlations without controlling for resilience at work (Table 15).

Table 16: Partial Correlations Between Thriving/Thriving at Work and Outcome Variables, Controlling for Resilience at Work (PsyCapR) in Study 2b

	TAW	BIT	UWES	CS	JS	OC	Perf	GHQ-12
Thriving at Work (TAW)	-							
Thriving (BIT)	.58**	-						
Work Engagement (UWES)	.83**	.50**	-					
Career Satisfaction (CS)	.55**	.57**	.52**	-				
Job Satisfaction (JS)	.71**	.42**	.77**	.51**	-			
Organisational Commitment (OC)	.65**	.43**	.74**	.50**	.71**	-		
Performance (Perf.)	.14*	.03	.21**	.06	.13*	.16**	-	
Mental/psychological Health (GHQ-12)	-.41**	-.58**	-.32**	-.28**	-.31**	-.19**	-.13*	-
Wellbeing (ONS)	.52**	.71**	.40**	.43**	.37**	.27**	.06	-.67**

** . Correlation is significant at 0.01 level

* . Correlation is significant at 0.05 level

The results were very similar when controlling for resilience (BRS) (Table 17). The correlations between thriving (BIT) and thriving at work (TAW) and work engagement, career satisfaction, job satisfaction and organisational commitment were slightly higher when controlling for resilience (BRS) than when controlling for resilience at work (PsyCapR). The correlations between thriving and thriving at work and performance were weak but statistically significant when controlling for resilience at work (PsyCapR). Correlations between both thriving (BIT) and thriving at work (TAW) and mental/psychological health (GHQ-12) and

wellbeing (ONS) controlling for resilience (BRS) (Table 16) are almost the same as the correlations controlling for resilience at work (PsyCapR) shown in Table 15.

Table 17: Partial Correlations Between Thriving/Thriving at Work and Outcome Variables, Controlling for Resilience (BRS) in Study 2b

	TAW	BIT	UWES	CS	JS	OC	Perf	GHQ-12
Thriving at Work (TAW)	-							
Thriving (BIT)	.62**	-						
Work Engagement (UWES)	.85**	.56**	-					
Career Satisfaction (CS)	.59**	.60**	.58**	-				
Job Satisfaction (JS)	.74**	.46**	.79**	.55**	-			
Organisational Commitment (OC)	.67**	.47**	.75**	.53**	.73**	-		
Performance (Perf.)	.25**	.15**	.32**	.17**	.22**	.23**	-	
Mental/psychological Health (GHQ-12)	-.43**	-.58**	-.38**	-.31**	-.35**	-.23**	-.23**	-
Wellbeing (ONS)	.54**	.71**	.45**	.45**	.41**	.31**	.15**	-.65**

** . Correlation is significant at 0.01 level

Finally, partial correlations (one-tailed) were used to explore the relationships of resilience at work (PsyCapR) and resilience (BRS) with all outcome measures while controlling for thriving at work (TAW) (see Table 18) and then thriving (BIT) (Table 19).

As in Study 2, when controlling for thriving at work (TAW) (see Table 18) the correlation between both measures of resilience and both job satisfaction and organisation commitment were almost zero. The correlation between work engagement and resilience (BRS) was also near zero. The correlation between work engagement and resilience at work (PsyCapR) was weak but statistically significant, as were the correlations between career satisfaction and both resilience measures. The correlation between resilience at work (PsyCapR) and performance, mental/psychological health (GHQ-12) and wellbeing (ONS) were statistically significant and weak-moderate. The correlation between resilience (BRS) and performance was very weak and only significant at the .05 level. The correlations between resilience (BRS) and mental/psychological health (GHQ-12) and wellbeing (ONS) were statistically significant and weak-moderate.

Table 18: Partial Correlations Between Resilience/Resilience at Work and Outcome Variables, Controlling for Thriving at Work (TAW)

	PsyCapR	BRS	UWES	CS	JS	OC	Perf	GHQ-12
Resilience at Work (PsyCapR)	-							
Resilience (BRS)	.55**	-						
Work Engagement (UWES)	.18**	.02	-					
Career Satisfaction (CS)	.20**	.15**	.18**	-				
Job Satisfaction (JS)	-.00	-.06	.45**	.20**	-			
Organisational Commitment (OC)	.00	-.03	.46**	.22**	.47**	-		
Performance (Perf.)	.32**	.12*	.22**	.05	.04	.09	-	
Mental/psychological Health (GHQ-12)	-.32**	-.42**	-.02	-.13*	-.03	.10*	-.18**	-
Wellbeing (ONS)	.25**	.38**	-.02	.23**	.00	-.09	.07	-.62**

** . Correlation is significant at 0.01 level. * . Correlation is significant at 0.05 level

When controlling for thriving (BIT), the results were similar, as shown in Table 19, although there were slightly stronger correlations than when controlling for thriving at work (TAW). The correlation between resilience (BRS) and work engagement, career satisfaction, job satisfaction and organisation commitment were zero, as in Study 2. The correlation between resilience at work (PsyCapR) and job satisfaction and organisation commitment were weak but statistically significant at the .05 level. The correlation between work engagement and resilience at work (PsyCapR) was weak but statistically significant at the .01 level, as was the correlation between career satisfaction and resilience at work (PsyCapR). The correlations between resilience at work (PsyCapR) and performance and mental/psychological health (GHQ-12) were statistically significant and weak-moderate. The correlation between resilience at work (PsyCapR) and Wellbeing (ONS) was very weak and only statistically significant at the .05 level. The correlation between resilience (BRS) and performance was very weak and only significant at the .05 level. The correlations between resilience (BRS) and mental/psychological health (GHQ-12) and wellbeing (ONS) were statistically significant and weak-moderate.

Table 19: Partial Correlations Between Resilience/Resilience at Work and Outcome Variables, Controlling for Thriving (BIT)

	Psy CapR	BRS	UWES	CS	JS	OC	Perf	GHQ- 12
Resilience at Work (PsyCapR)	-							
Resilience (BRS)	.51**	-						
Work Engagement (UWES)	.26**	.09	-					
Career Satisfaction (CS)	.16**	.07	.36**	-				
Job Satisfaction (JS)	.14*	.04	.72**	.38**	-			
Organisational Commitment (OC)	.10*	.02	.67**	.35**	.66**	-		
Performance (Perf.)	.35**	.14*	.30**	.10*	.17**	.19**	-	
Mental/psychological Health (GHQ-12)	-.23**	-.33**	-.10*	.04	-.12*	.05	-.21**	-
Wellbeing (ONS)	.12*	.26**	.10*	.05	.14*	-.04	.10	-.47**

** . Correlation is significant at 0.01 level

* . Correlation is significant at 0.05 level

There is evidence to reject the second hypothesis: H_2 : *There is no difference between the relationships of resilience, resilience at work, thriving or thriving at work with any of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.* In this study, there is evidence of different relationships with all the outcome variables.

Both thriving measures showed stronger correlations than both resilience measures with each of work engagement, career satisfaction, job satisfaction and organisational commitment (Table 15 above). The much smaller or non-existent correlations of both resilience measures with those four outcomes when controlling for thriving at work (Table 18 above) suggests that they have a different relationship with thriving at work than with resilience. This suggests that thriving at work is much more strongly related to work engagement, career satisfaction, job satisfaction and organisational commitment than resilience or resilience at work.

In addition, performance had a stronger correlation with resilience at work than with any of the other measures, and the correlation of both thriving measures was weak or non-existent when controlling for resilience at work. The correlation of performance with resilience at work was again statistically significant and weak-moderate when controlling for both thriving and thriving at work. This suggests that performance is more strongly related to resilience at work than to thriving or thriving at work.

The correlations between both thriving measures and the mental/psychological health and wellbeing measures were slightly lower when controlling for resilience or resilience at work. The correlations between both resilience measures and mental/psychological health and wellbeing measures were lower when controlling for thriving at work and particularly thriving.

This suggests that both mental/psychological health and wellbeing are more strongly related to thriving, and thriving at work, than to resilience or resilience at work.

There was therefore evidence to reject the second hypothesis for all the outcome measures.

5.6 Study 2b Discussion

The correlation between resilience and thriving at work in this study ($r=.43$, $n=284$, $p<.01$) was higher than the correlations found in both Study 2 ($r=.38$, $n=288$, $p<.01$) and Study 1 ($r=.37$, $n=310$, $p<.01$). However, the difference was not statistically significant (using the Fisher r -to- z transformation, $z=.71$, $p=.24$ (Lowry, 2023; Pallant, 2016, p. 147)). This provided even more corroborating evidence that the two constructs overlap but are not the same.

There was an extremely strong correlation between wellbeing (ONS) and thriving (BIT) ($r=.79$, $n=284$, $p<.01$). This is not surprising, since the BIT is based on a definition of thriving being “positive functioning at its fullest range—mentally, physically, and socially” (Su et al., 2014, p. 256), and was created via a process that assembled items from a “broad range of psychological wellbeing constructs” (p. 256) before selecting amongst those for the final measure. The BIT was therefore designed to measure a superset of the construct measured by the ONS wellbeing questions, meaning that the ONS construct of wellbeing is subsumed into the BIT’s construct of thriving. The very strong correlation should be expected, as they are effectively aspects of the same construct. Therefore, correlations between resilience or resilience at work and wellbeing (ONS) could be expected to be weak when controlling for BIT.

The slightly less strong correlation found between mental/psychological health (GHQ-12) and thriving (BIT) ($r=.69$, $n=284$, $p<.01$) highlights the difference between focusing on wellbeing (as in the ONS wellbeing questions and the BIT), and looking for mental and psychological problems, as in the GHQ-12. While there is a strong correlation, the two conceptualisations of wellbeing are not exactly the same, as argued by many positive psychology researchers (e.g., Diener et al., 1999; Keyes, 2002; Lomas et al., 2021; Magyar & Keyes, 2019; Ryff & Keyes, 1995; VanderWeele et al., 2020).

As expected, the results from this study supported the first hypothesis H_1 : *Resilience, resilience at work, thriving and thriving at work are all positively related to each of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.*

There was no reason to expect any difference to Study 2 in this regard, and all the correlations were in line with those seen in Study 2.

Like in Study 2, there was evidence to reject the second hypothesis H₂: *There is no difference between the relationships of resilience, resilience at work, thriving or thriving at work with any of the seven common outcome constructs: work engagement, career satisfaction, job satisfaction, organisational commitment, task performance, mental/psychological health and wellbeing.* Work engagement, career satisfaction, job satisfaction and organisational commitment showed stronger relationships with thriving at work than with resilience and resilience at work, and very low or non-existent correlations with resilience when controlling for thriving at work. This confirmed the results of the previous study, that work engagement, career satisfaction, job satisfaction and organisational commitment are more strongly connected to thriving at work than to resilience at work. As previously remarked, these correlations do not indicate that thriving at work results in these outcomes. It is equally possible that high levels of these variables lead to thriving at work, or that all are related to other, as yet unknown variable(s). More research is needed to show the direction of the relationship.

Study 2b also found that performance has a stronger relationship with resilience at work than with thriving or thriving at work. However, the performance measure was a single self-report measure, so further research is needed to corroborate this finding. Using more objective performance measures such as supervisor ratings would give stronger evidence for this finding. There was also a difference between the relationships of resilience/resilience at work and thriving with wellbeing and mental/psychological health. This is not surprising given the very strong correlations between thriving and these two outcome measures as mentioned earlier. Again, this was only a single study, and further research is needed to corroborate the results.

5.6.1 Study2b Limitations

The limitations of Study 2b are the same as those in Study 2, given it was a replication study: (a) Participants were recruited via Prolific and self-selected to participate in the study, so may not be representative of a standard UK population; (b) all measures were self-report, and therefore may be subject to bias and social desirability responses; and (c) performance would be better measured through more objective measures instead of a single, self-report measure.

5.7 Summary

The results from both studies 2 and 2b confirmed that, as expected, there are positive correlations between both resilience at work and thriving at work and work engagement, career

satisfaction, job satisfaction, organisational commitment, task performance, and wellbeing, and a negative correlation with mental/psychological health (in which a high score suggests mental health problems). This is in accordance with the literature findings that suggested that both resilience and thriving at work were related to these outcomes (see section 4.8).

Both studies also showed that work engagement, career satisfaction, job satisfaction and organisational commitment have stronger relationships with thriving at work than with resilience at work, and that these variables are only weakly, if at all, related to resilience at work when controlling for thriving at work. This is a new finding, but the similar results across the two studies using completely different populations suggest it is likely to be valid.

Study 2b showed that performance may be more strongly related to resilience at work than thriving at work. Study 2b also showed that wellbeing and mental/psychological health are strongly correlated with thriving at work and are also related to resilience at work. But as a single study, further research is needed to corroborate these findings.

While correlational, the results above indicate that however resilient a desk-based worker might be, it is their level of thriving at work that is most related to the key outcomes of work engagement, job satisfaction, career satisfaction and organisational commitment. All other variables being equal, just being resilient – even highly resilient – without thriving does not correlate with high levels of these outcomes. This is an important result for organisations and their employees, and the implications will be discussed further in Chapter 9.

In exploring the relationship between resilience and thriving at work, this research has so far established that resilience and thriving at work are not the same: they are distinct but overlap; the relationship between resilience and thriving at work is likely to be complex, involve multiple factors as mediators or moderators, and be context dependent; and work engagement, job satisfaction, career engagement and organisational commitment are more strongly associated with thriving at work than resilience at work.

The next stage of the research considered how resilience and thriving at work were experienced by desk-based workers, to explore the relationship between resilience and thriving at work in more depth.

Chapter 6

How do Desk-Based Workers Experience Resilience and Thriving at Work?

The question of how resilience and thriving at work might be related has so far been examined quantitatively. Results suggest that the constructs are distinct but overlap. They are related to multiple common factors (as outlined in Chapter 4) and were shown to relate differently to several important work-related outcomes in the previous chapter. These findings do not however explain exactly how the relationship between the two constructs works, or how the multitude of factors identified in Chapter 4 might be involved in the relationship.

Further research was therefore needed to explore how resilience and thriving at work might be related for desk-based workers, and how the factors identified in the previous research might fit into that relationship. Not only would this deepen the understanding of how desk-based workers experience both resilience and thriving at work, but it could also provide the basis for developing a framework to illustrate the relationship between the two constructs. This evidence-based information could then be used to help individuals and organizations to increase resilience and/or thriving at work.

The objective of the third study was therefore to understand how resilience and thriving at work are related for desk-based workers and develop a framework illustrating this. It was also expected to help clarify how the many factors identified as related to both constructs might be involved in the relationship between the two. The exploratory nature of this question suggested a qualitative design (Creswell & Poth, 2019), to add depth and understanding to how the experience of resilience at work impacted on thriving at work and vice-versa.

Interviews were conducted to understand the meaning and experience of individuals in the workplace (Creswell & Creswell, 2018; Crotty, 1998). Critical Incident Technique (CIT) (Butterfield et al., 2005) was identified as ideal to gather in-depth detail, to understand the contexts influencing both resilience and thriving at work, and to develop a deeper understanding of how resilience and thriving at work might be related (Bott & Tourish, 2016). The interview data was examined using Braun and Clarke's (2006, 2013, 2021b) thematic analysis approach to develop meaningful themes, as recommended by Bott and Tourish (2016). A framework diagram was drawn up to illustrate the findings of how resilience and thriving at work might be related. For more details on the choice of reflexive thematic analysis for this work, see section 3.3.6 on page 42.

6.1 Study 3 Methods

6.1.1 Study Design

This was a qualitative, critical incident interview study, consisting of one-to-one interviews with participants describing situations at work where they have been highly resilient or thriving, or alternatively where they struggled to be resilient or to thrive.

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number aLMS/PGR/UH/04986(1).

6.1.2 Participants

Participants had to be employed (either full or part time), working for a company with 10+ employees, not customer-facing, and not working for any UK services such as the police, NHS, fire service or similar organisations.

Participants in the non-Prolific survey in the first study (described in Chapter 4) were invited to leave their email address if they were interested in being interviewed for this qualitative study. All participants who entered an email address were asked to interview: 11 were actually interviewed.

In addition, the researcher supervised a master's degree student project with the same objective as this project: to understand and explore the relationship between resilience and thriving at work. The participant population was slightly different from this research: participants had to be working full or part time, and within three years of graduating from university, but did not necessarily have to be desk-based workers. Five of the participants from that project were desk-based workers, so met the criteria for Study 3 of this research, and their interviews were included in the data (see below). This enabled access to additional participants in different demographics than those of the original researcher.

6.1.3 Interview Design

The objective of the study was to understand how resilience and thriving at work are related for desk-based workers. It was therefore necessary to explore both how resilience and thriving at work were experienced by desk-based workers, and also how they saw/experienced the relationship between the two. The interviews needed to explore the topics in depth, including discussing factors that helped or hindered resilience or thriving at work for participants, in order to produce the level of understanding that could develop a framework of how resilience and thriving at work are related for desk-based workers. The interview approach needed to focus the

discussion on the information needed for this study, while ensuring a good depth and breadth of knowledge was gathered through open questions, and not ‘leading the witness’ by using questions that showed the researcher’s prior knowledge of the topics under discussion.

For all these reasons, the Critical Incident Technique (CIT) was chosen as a good way to structure the interviews. Flanagan (1954) introduced CIT 70 years ago, and it has become widely used for qualitative research as it is seen as effective for both exploratory and investigative work (Butterfield et al., 2005). While initially focused on observing practical incidents in the workplace, CIT has now come to be used in organisational and other psychology studies, focusing on investigating and exploring retrospective self-reports of “factual happenings, qualities or attributes, not just critical incidents” (Butterfield et al., 2005, p. 480). Butterfield et al. (2005) suggest distinctive features of CIT include: (a) focusing on “critical events, incidents, or factors that help promote or detract from the effective performance of some activity or the experience of a specific situation or event” (p. 483); (b) collecting data mainly via interviews; (c) analysing data “by determining the frame of reference, forming categories that emerge from the data, and determining the specificity or generality of the categories” (p. 483); and (d) “developing categories with operational definitions and self-descriptive titles” (p. 483). Bott and Tourish (2016) suggest that CIT is ideal for use in organisational research both for exploration and also for developing models or theories. They propose that CIT “can elicit rich details of specific situations, including background context” (p. 296). This is ideal for exploring the relationship between resilience and thriving at work, as both constructs have already been shown to be highly context dependent. All these points suggested that CIT was a good choice for the purposes of this study.

Interviews were semi-structured, to focus on the data of most interest to the study. Four high-level questions were asked in CIT format, with follow-up questions probing for more detail about each situation and what had helped or hindered resilience or thriving at work. The four high-level questions asked participants to describe situations where they (a) had been resilient at work; (b) had struggled to be resilient at work; (c) had been thriving at work; (d) had struggled to thrive at work. Questions were posed in CIT format, e.g.,

Please describe a significant situation when you were particularly resilient at work. A significant situation is a situation outside of routine events, which triggered you to take action, and which resulted in a positive outcome. Please think of a situation that you can easily remember.

Once the four CIT questions had been asked, participants were asked a final high-level question: what relationship (if any) they saw between resilience and thriving at work. The full interview protocol is shown Appendix N.

6.1.4 Procedure

Participants were contacted by email to arrange an interview date. Consent forms were returned by participants prior to their interview, and consent was also verbally requested (and given) at the beginning of each interview. The high-level interview questions were emailed to participants several days before their interview, to give them time to think about appropriate situations they were willing to discuss (Bott & Tourish, 2016).

Individual researchers held one-to-one semi-structured interviews with participants via Zoom, for ease of access to participants and for ease of recording and transcription. The same semi-structured interview protocol was used in each interview (Appendix N), to minimise discrepancies introduced by using two interviewers.

The interviews were conducted between June and December 2022. Interviews were recorded, the associated Zoom transcriptions downloaded, anonymised, reviewed and updated for accuracy. The transcripts were imported into NVivo software for coding and reflexive thematic analysis theme development.

6.2 Study 3 Results

6.2.1 Demographics

16 people took part in 20- to 60-minute interviews using the semi-structured interview protocol in Appendix N. Participants confirmed they were employed in companies of 10 or more people, and not in occupations involving inherent or second-hand trauma nor in customer facing roles. They gave signed consent to their involvement in the study. There were 6 men and 10 women, two in NZ, one in Australia, and one in the United Arab Emirates, and the rest in the UK. They ranged in age from 18 to 65 years, and about half were managers. The older participants were all white, while the younger participants were mostly non-white.

6.2.2 Initial Results from Reflexive Thematic Analysis

Reflexive thematic analysis was carried out as described in section 3.3.6 on page 42. Initial results showed that participants described an indirect relationship between resilience and thriving at work. Resilience, which all participants considered to involve striving against adversity, resulted in participants taking action and developing new skills and attributes as they handled the adversity. Participants indicated that their experiences helped them to increase

clarity about what they were capable of and change attitudes to themselves and work, including stronger self-knowledge, prioritising relationships with others, being clearer about what was important to them, and being more proactive. They described thriving as resulting from active choices they took when feeling part of a strong community in a positive organizational environment.

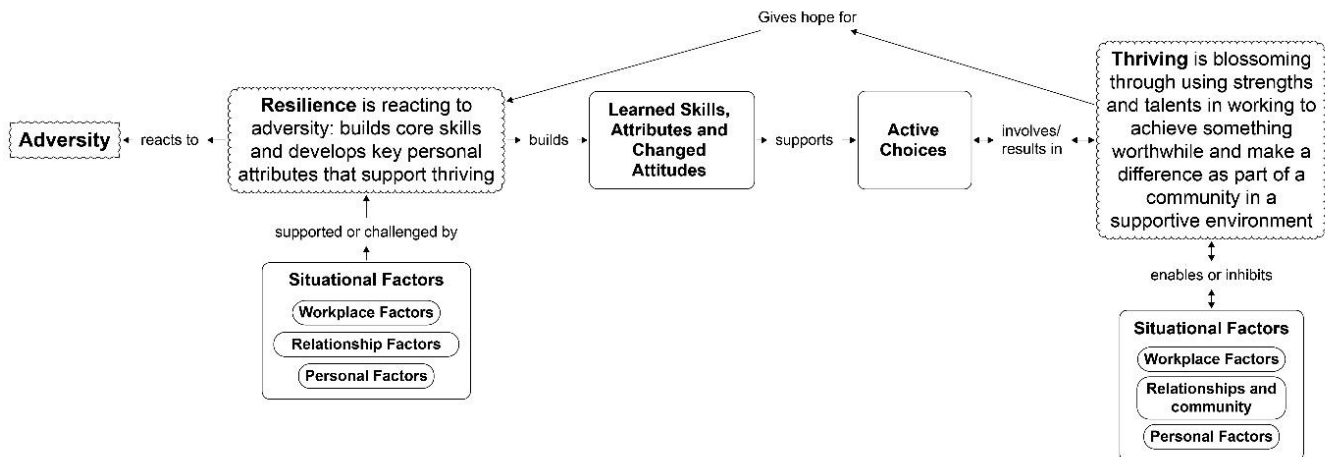
For example, two participants used a plant analogy when discussing the relationship between resilience and thriving at work:

“I think resilience is about [...] the central core which allows you to live through difficulties --- and survive --- you know, keep going and not wither and die.--- Like a plant [...] And are you then able to, when you are put in the right conditions, then --- grow and blossom and bear fruit?” (P8).

“plants can be resilient, but they may not be thriving. [...] I guess the thriving thing for me is something about actually those plants, not just, not just existing but actually having the flowers and the, and the bloomy bits, the blossomy bits”. (P7)

Participants mentioned many factors that either helped or hindered their resilience and thriving at work. The researcher had a detailed knowledge of the research into both resilience and thriving at work. The researcher created maps from all the codes for the different factors in NVivo She created an initial tentative framework of the relationship between resilience and thriving at work based on those maps combined those with her knowledge of resilience and thriving at work theory and existing models. Factors were split into workplace, relationship and personal factors, as this seemed to work well with factors mentioned by the participants, and was in accord with the existing literature (see section 4.2 on page 51). The full initial framework including details of the individual factors mentioned by the participants is given in Appendix O. A simplified version of this initial tentative framework illustrating the relationship between resilience and thriving at work is shown in Figure 1 below.

Figure 1: Initial Framework Showing the Relationship Between Resilience and Thriving at Work



6.2.3 Final Themes

Further reflexive thematic analysis resulted in three core themes to describe the relationship between resilience and thriving at work:

Theme 1: Resilience develops roots that enable thriving: Resilience – having to react to adversity at work – results in developing skills and attributes and increasing personal clarity needed for thriving.

Every participant listed many things they had learned from dealing with adversity, for example, challenging the situation: “*it's about picking your battles that you should fight - don't let them fight, be fought for you.*” (P1); or setting things into perspective: “*That actually it's, it's--seeing it from the from the bigger, bigger, more long-term context - actually a little spat here doesn't really amount to a hill of beans.*” (P10); or managing their emotions. “*...probably in the last 10 years or so I have become more able to read and manage my own emotions.*” (P8).

Participants felt that it was developing those skills, attributes and clarity that formed the basis for them to thrive in future, when the environment was right. This was particularly evident in the plant analogies mentioned earlier, but also when participants suggested how they now knew themselves better and were more skilled in what was needed to thrive. P4 described it like this:

“the fact that you have been resilient and---coped with whatever [...] came around the corner, means that you, it just builds your confidence that you can cope with anything that comes around the corner. [...] And, and that then says actually well, maybe I could actually push myself and go into some more slightly

less comfortable things and see if I can survive those as well.---So for me it gives you the confidence to---push on, and then that gives you the scope to have those euphoric, everything turns to gold moments which you might not have done ...”

and PTM44 said:

“Going through resilience makes you realise you shouldn’t want to give up, when you constantly want to be better and better you start to thrive”.

Theme 2: Thriving is bigger than the individual: Thriving involves feeling part of a community or family at work, something bigger than yourself.

All participants commented on the importance of relationships with others for both resilience and thriving at work, particularly those with one’s boss and colleagues. However, when discussing resilience participants tended to mention supportive relationships with individuals, whereas they were vocal that thriving involves being part of a community, working together and helping others.

For example, when discussing what helped resilience, P1 said *“it’s having that somebody to talk to that basically gives you the guidance that says ‘it’s okay’”*; P7 said *“... I do confide in one or two people outside of my work environment, you know, in a really trusted manner.”* and P8 said *“I did seek somebody who I thought could help me.”*

When recalling a period of thriving, on the other hand P3 observed: *“We had a most tremendous esprit de corps”*, and P1 said *“it was like being welcomed back into a family”*. She went on to comment *“...how I thrive is if we’re all rowing in the same direction.”* P6 mentioned *“I think, helping other people, when I was in there, helped me to thrive - you know, helped me to thrive as well.”*, and P7 similarly commented *“...I’m very self-motivated by making other people better at what they do.”* P10, talking about how the whole company was thriving from a new initiative, said *“...that made them feel equally that it was - they were part of the same success that they, you know, ---working for us all ...”*.

Theme 3: Thriving spirals upwards through active choices in a supportive environment: Thriving is active – it develops by deliberate actions taken in a supportive environment. The positive choices made when thriving positively influence the environment and community, making them even more supportive, which enables even more thriving.

The choices involved in thriving include taking a broad, optimistic perspective, working hard, being authentic and true to yourself at work: doing things that feel right, important,

interesting and make a difference, and savouring your achievements. For example, P9 commented on her own internal self-talk: *“I think that I'm in a place now where I can thrive, because the, if you like, the---um---internal wiring, or the internal dialogue, is much more supportive”*. P1 commented that when thriving *“You'll work and work and work because you're committed to the team, the values”*. P11 talked about an upward spiral of thriving:

“--- It was a period of--- lots of feedback, I suppose, um --- I, and I felt like I was--- constantly sort of exceeding expectation, um--- And that felt really good! and sort of exceeding or going beyond where they thought you would one day... gave me some drive to come back and work even harder, the next day, so I can do it do it again...[...]... I think that sort of positive cycle was, was key to be honest, it was that--- I was feeling more confident, I was feeling better about it, and I just wanted to--- to get in and prove to everybody that I could do it.

Participants identified the contribution of positive organizational context and culture to thriving. For example, P8 said: *“able to, when you are put in the right conditions, then-grow and blossom and bear fruit”* and P9 commented how the positive culture at her organization made the impact of COVID much more manageable:

“I think they do actually have a very supportive culture that, and that has been proven to be, especially over the pandemic, you know.---Extra sick leave. Telling people, you know, "if you're sick, stay home. It's okay. Don't come into work", you know, "Recover properly". That, that sort of really supportive stuff, yeah.--- you know, "If you need to take care of your kids" um "You just go and do that". [...] I think's been also part of that um-- er---feeling comfortable that they -er- they have our backs, you know, and that they know that we will produce the work um too.”

However, participants also identified that the choice to thrive can be influenced by the level of support in the work environment. For example, P11 commented:

“...I could put in significantly more effort now and I could probably get myself to the point where I'm, I'm thriving again in this role that I'm in now --- But, but to what end? [...] would that energy be better spent trying to thrive where the situation facilitates it?--- I would argue - trying to, trying to move yourself---to a situation where it's easier to thrive, is a better use of your energy than trying to

brute force thriving in a in a set of circumstances that - because they're out of your control ---that's, that's not the bit---you can control”

One final theme also developed during the reflexive thematic analysis, focused on the impact of the participants’ perspectives on both resilience and thriving at work.

Theme 4: You can be your own worst enemy – or biggest supporter. Participants highlighted the importance of internal beliefs and attitudes to both resilience and thriving at work.

Participants noted that their thoughts and beliefs could help or hinder both resilience and thriving at work. Examples of negative thoughts that caused problems included “*struggling with resilience was more to do with lack of maturity*” (P1). “*I struggle with focus. When I’m not focused, that can kind of demotivate me.*” (AB07); “*I will sometimes read into things that people say, that which is not there*” (P10); “*So it was a feeling of being completely---like a passenger, unable to control it, which is, which, which makes you a victim.*” (P8). Unreasonable expectations could also cause problems with either resilience or thriving at work. For example, P5 said “*I think it was, you know, putting a quart into a pint pot - it was just trying to do too much*”. GC10 commented “*I’m one of those people who burn myself out quite a lot. I just push and push and give everything I have to give and then end up burning out*”.

On the positive side, P9 commented “*a lot of that is the self-talk that you've got - so that critical voice in your head. And I think---um---really, as I've gotten older I'm [sic] healed a lot of that as well.*” P1 suggested “*stop looking at "oh, but this could go wrong and that could go wrong", look at glass half full, not half empty*”. P3 said “*our resilience as a parish was people simply saying, 'other people have got it worse' - and it strengthened the community immensely*”. P8 said “*I also am allowing myself to take a mindset that says, I don't have to be here, I choose to be here.*” P11 said “*base everything in facts and evidence, essentially, rather than which of those assumptions are just in my head*”.

6.2.4 Final Framework: Illustrating how Resilience and Thriving at Work are Related

One of the main objectives for this study was to develop a framework illustrating how resilience and thriving at work were related for desk-based workers. The above themes describe the core ideas about the relationship that developed from the reflexive thematic analysis. Working on the themes through the analysis also helped to develop and expand the framework, by considering how the different factors identified by the participants in the interviews might fit into the relationship between resilience and thriving at work.

Factors mentioned by participants were categorised into two types: those that were core parts of the relationship between resilience and thriving at work, and those that seemed to be contextual factors: things that would influence the relationship but were not a key part of how the two constructs were connected.

In terms of the core relationship, participants mostly felt that developing resilience supported thriving, although indirectly. These comments led directly to Theme 1: *Resilience develops roots that enable thriving*. Factors related directly to the core relationship were those related to Theme 1. They consisted of the specific learned skills and attributes and mindsets resulting from resilience that participants identified helped them to make active positive choices to thrive, as expressed in Theme 3: *Thriving spirals upwards through active choices in a supportive environment*.

The core factors identified by participants fell into two categories. The first category included skills that were learned through coping with adversity – specific skills that could then be applied to later situations, whether to support resilience in further adversity, or to support thriving. This included (a) skills of self-care, both physical (e.g., eating well, exercise, sleep) and mental (e.g., positive self-talk); (b) putting things into perspective; (c) using connections (e.g., reaching out for help and communicating effectively); (d) managing emotions (e.g., self-calming); (e) clarifying and prioritising what needed to be done; (f) challenging the situation (e.g., setting boundaries and doing what is right); and (g) keeping on going, not giving up. The second category involved increased clarity about themselves and what was important, which resulted from dealing with adversity and the skills they had developed. This included (a) a stronger sense of themselves and what they were capable of; (b) prioritising relationships with others, having recognised their importance to resilience; (c) being clearer about their values and what was important to them; and (d) becoming more proactive, more likely to take action. This increased clarity could then support either further resilience or lead to more thriving.

Participants felt that the skills and increased clarity resulting from resilience were helpful, but not sufficient for thriving, as expressed in Theme 3. Participants felt that thriving required active positive choices, it did not just happen by itself. The choices mentioned included (a) choosing to take an optimistic perspective; (b) being more authentic at work; (c) savouring achievements; and (d) working hard. These active positive choices were supported by both the learned skills and the increased clarity resulting from resilience.

The resulting core relationship, including the key factors just outlined, is depicted in the middle of the final framework (Figure 2 on page 103). Definitions of resilience at work and thriving at work developed through the reflexive thematic analysis are connected by the skills learned from resilience, the resulting increased clarity about themselves, their capabilities and what was important to them, and the subsequent active positive choices required to thrive.

However, this core relationship was only part of the story. The importance of the context had come through clearly in the interviews, as reflected in all the themes except the first. This fits well with the existing literature on the importance of the organisational context for both resilience and thriving at work, particularly Spreitzer et al. (2005)'s model of thriving at work and its extensions (Goh et al., 2022; Porath et al., 2022) and the Job Demands-Resources (JD-R) model (Bakker et al., 2004; Bakker & Demerouti, 2018). Both positive and negative factors were identified by as impacting resilience or thriving at work or the relationship between them. Positive factors were incorporated into the final framework diagram above the core relationship, with negative factors depicted below the core relationship.

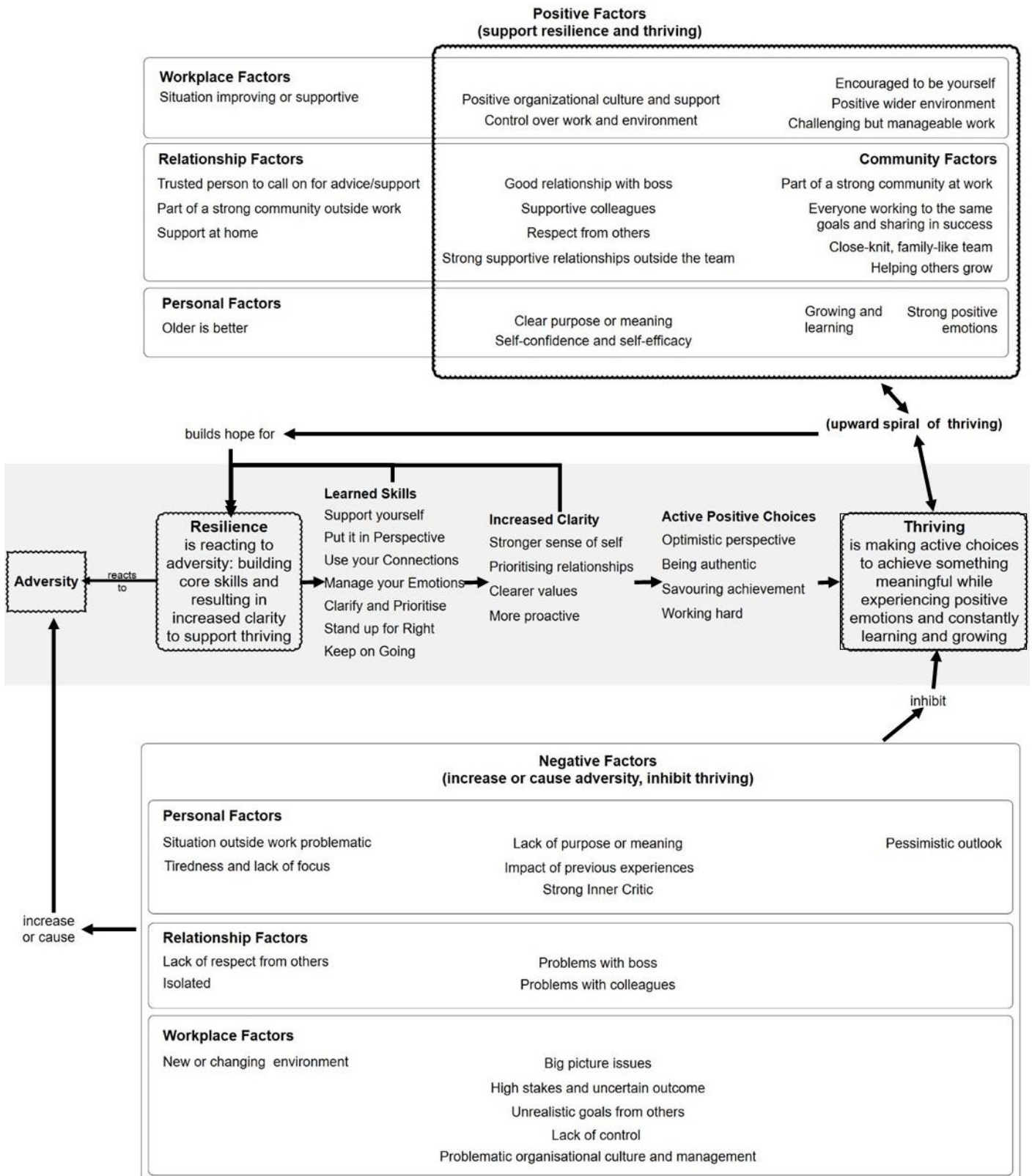
The contextual factors were categorised into personal, relationship or workplace factors, and bands representing each category placed across the diagram. Factors that participants had articulated with reference to mostly resilience at work were placed on the resilience side, the left. Those that participants discussed mainly with reference to thriving at work were placed on the thriving side, on the right, with some in the middle that had been mentioned in reference to both.

The positive relationship band on the framework illustrates the factors underlying Theme 2: *Thriving is bigger than the individual*. The framework shows how these factors move from individual relationship factors on the left-hand side (supporting resilience) to community factors on the right-hand side (influencing and resulting from thriving).

The double-headed arrows between thriving and the positive factors above it depict Theme 3: *Thriving spirals upwards through active choices in a supportive environment*. The heavy line around the positive factors in the centre and right-hand side highlights the factors supporting and/or resulting from thriving at work. When thriving, the experience of positive emotions and growing and learning build more positive emotions and encourage more growing and learning, as described by Fredrickson in her broaden and build theory (Fredrickson & Joiner, 2018). One individual thriving in a close-knit community positively impacts others and so strengthens the community. Similarly, thriving individuals and communities positively influence

organizational contexts and culture. This is exactly as described in Spreitzer et al. (2005)'s thriving at work model.

Figure 2: Final Framework Illustrating the Relationship Between Resilience and Thriving at Work for Desk-Based Workers



The personal bands in the framework reflect the factors underlying Theme 4: *You can be your own worst enemy – or biggest supporter*. The personal band above the core relationship reflects the positive factors, ranging from the importance of experience to resilience on the left-hand side, through to a focus on growing and learning and strong positive emotions which both result from and support thriving (in the positive spiral mentioned above). The personal band below the core relationship reflects negative personal factors. These range from tiredness and lack of focus on the left-hand side, which can challenge resilience through to a strong inner critic and a pessimistic outlook, which can undermine not only the relationship between resilience and thriving, but also the opportunities for and experience of thriving itself. These positive and negative factors relate to personal factors outlined in the JD-R model (Bakker et al., 2004; Bakker & Demerouti, 2017), and to those in Spreitzer et al. (2005)'s thriving at work model.

Negative factors around relationships and the workplace may not only inhibit thriving but also actively either cause adversities for desk-based workers or make existing adversities worse. These are shown in the relationship and workplace bands underneath the core relationship.

Finally, the framework illustrates that there can also be an impact on resilience from thriving, as several participants indicated that having been thriving in the past gave them hope for the future when dealing with adversity. For example, P3 said *“it's the cultural knowledge that it's possible to thrive that enables resilience”*.

6.3 Study 3 Discussion

Both the themes and the framework developed through this study are grounded in both the interview data and the researcher's own knowledge and background, as expected with reflexive thematic analysis. As a result, while they reflect the content expressed by participants in the interviews, the organisation of the factors and the form of the final framework owe a great deal to existing models of resilience and thriving at work, as discussed in both Chapter 2 and Chapter 4. The thriving end of the framework strongly reflects and supports Spreitzer et al. (2005)'s model of thriving at work and its extensions (Goh et al., 2022; Porath et al., 2022). The resilience end of the framework strongly reflects and supports the Job Demands-Resources (JD-R) model (Bakker et al., 2004; Bakker & Demerouti, 2017, 2018) of stress and burnout.

For example, Theme 1: *Resilience develops roots that enable thriving* reflects not only the idea of resilience as a process but also resilience as an outcome (see Chapter 2). The idea that one can build roots (of multiple kinds such as relationships with others, skills, positive mindsets and increased clarity) through developing resilience, that are then available to support both

resilience and thriving going forward is completely in accordance with resilience being defined as “the functional process in which individuals adjust and respond to challenges and change in an adaptive manner” (J. J. W. Liu et al., 2020, p. 2) and both the JD-R model and Spreitzer et al. (2005)’s model of thriving at work mentioned above. What is new in this research is connecting the two - considering that some of the outcomes from resilience could support thriving at work. This research introduces the idea that people could use the skills and attitudes they developed when reacting to adversity to support active choices to thrive (in a supportive environment). This is an exciting opportunity for practitioners as well as the individuals and organisations they support (see Chapter 9).

Theme 2: *Thriving is bigger than the individual* emphasises the importance of being part of a community, something bigger than oneself, to thriving at work. Existing research on thriving at work has already highlighted the crucial importance of this (Porath, 2022; Porath et al., 2022; Sonenshein et al., 2013; Spreitzer et al., 2005), both as context (being part of a community supports thriving at work), and also as a pathway for an individual to thriving at work (an individual can take deliberate action to create a sense of community, which in turn helps them thrive (Porath, 2022; Porath et al., 2022)). While both theoretical and empirical research also shows the importance of relationships with others to resilience (Bakker & Demerouti, 2017; Demerouti et al., 2001; Hartling, 2008; Hartmann et al., 2020), the new finding in this research is the observation that *individual* relationships are important to resilience, while *community* relationships are essential to thriving. This difference, incorporated in the framework shown in Figure 2 and articulated in Theme 2, gives clarity on how relationships with others may differ in their impact on resilience and thriving at work. While undoubtedly individual supportive relationships could help thriving, and a sense of community could also help resilience, they may not be as required as the other way around. This finding requires further study to be confirmed.

Similarly, the JD-R model and Spreitzer’s theoretical model of thriving at work suggest that both resilience and thriving at work are very context dependent (see Chapter 2 and Chapter 4) and that thriving at work can be an upward spiral heavily dependent on both organisational context and personal action (Porath et al., 2022; Spreitzer et al., 2005, 2012), as encapsulated in Theme 3: *Thriving spirals upwards through active choices in a supportive environment*.

The second and third themes from this research both highlight the importance of the organisational culture to thriving at work: via positive support and a sense of community. The thriving at work literature strongly supports these findings (Burke, 2019; Kleine et al., 2019;

Spreitzer et al., 2005, 2012; Spreitzer & Sutcliffe, 2007). In particular Spreitzer et al. (2012) identified multiple ways that organisations could promote thriving, all of which are related to making the organisational culture more supportive (described in section 8.1). Multiple types of positive leadership, including authentic, empowering, transformational and servant leadership have been shown to be antecedents of thriving at work (D. Liu et al., 2021). Porath (2022)'s book on mastering community highlights the role leaders and organisations play in helping to support thriving at work by building a strong community. This suggests that interventions to increase thriving at work should be made at both the organisation and the individual level, for greatest effect. This is discussed further in Chapter 8, which reviews interventions.

The literature quoted above on both resilience and thriving at work also emphasises the potential impact of personal factors and traits. This is demonstrated by the lists of personal factors found in the research for both resilience and thriving at work described in Chapter 4. This supports Theme 4: *You can be your own worst enemy – or biggest supporter*.

Finally, Scott et al. (2024) found that hope predicted engagement, work-related resilience and reduced stress in performing arts workers during the COVID-19 pandemic. The role of previous thriving in creating their hope was not examined, but it might be expected that previous experiences of thriving could help such workers have stronger hope. This needs further research but lends credence to the link in the framework between resilience and thriving via the creation of hope.

Chapter 4 documented the antecedents and outcomes for both resilience and thriving at work documented in recent meta-analyses and structured reviews. Comparing the factors mentioned by participants in their interviews to those found through that analysis identified many commonalities (as would be expected) but also some differences. Two constructs in particular that are shown in the framework in Figure 2 were not mentioned in any of the meta-analyses and structured reviews considered in Chapter 4: prioritising relationships with others and being more authentic at work. According to participants, they recognised the importance of key relationships to help them when dealing with adversity, so as a result they prioritised building and maintaining positive relationships going forward. This then supported them in taking positive actions to build the sense of community that supported them in thriving. Resilience also resulted in participants developing a stronger sense of self and self-efficacy, being clearer on their values and what was important to them, and being more proactive. This then supported them in taking action to be more authentic at work – being more true to themselves, which in turn supported their thriving. As newly identified potential mediators in the

relationship between resilience and thriving at work, further work is required to confirm these findings.

6.3.1 Study 3 Limitations

All participants who were interviewed came from snowball sampling and many (but not all) were known to the interviewer prior to their participation. This could increase the potential for social desirability in the responses.

While most participants were interviewed by the researcher, five participants were interviewed by a master's degree student. While the reflexive thematic analysis was conducted only by the researcher on verbatim transcripts from the interviews, and both interviewers used the same semi-structured interview questions, the difference in interviewer could have impacted the results. In particular, the interviews by the master's student were shorter than those by the researcher, giving less depth of detail. Also, the participants in those interviews were mostly younger and more mixed in ethnicity than those interviewed by the researcher.

Only a small number of participants were involved in this study, and the resulting illustrative framework is only an initial starting point for clarifying the relationship between resilience and thriving at work. For the framework to be of most use to organisations, further research is required to confirm and validate the framework across a larger and more diverse population.

Similarly, the illustrative framework resulting from this study, while related to existing literature and based on this research, barely scratched the surface of clarifying the relationship between resilience and thriving at work. Additional research is required to confirm and validate the framework, especially to clarify if the factors and relationships shown are accurate, complete, and if they are mediators or moderators (or both).

6.3.2 Impact of COVID-19

COVID-19 did not figure in the results reported by Study 3, because it was not even mentioned by most of the participants. The study took place in mid-2022, while the COVID-19 pandemic and the associated issues were still very much top of mind. However, only two of the participants used the impact of COVID-19 (specifically lockdowns and changing work practices), as an example of an adversity they needed to be resilient about. None of the other participants even mentioned COVID-19 or any associated disruption as something to be resilient about when asked about times they had had to be resilient, which surprised the researcher.

While not conclusive, this observation led the researcher to a decision: that it was not necessary to focus directly on COVID-19 and its impact on work in the other studies in this research.

6.4 Summary: The Relationship Between Resilience and Thriving at Work

The themes and framework resulting from this study (Figure 2) illustrate the potential relationship between resilience and thriving at work for desk-based workers, along with factors that may support or inhibit resilience, thriving or the relationship. The framework provides a useful tool to support individuals and organisations in identifying targets for intervention – either to build thriving, resilience or one or more supportive factors, or to remove factors that are potentially inhibiting resilience and/or thriving. Either way, it gives organisations and individuals a clearer picture of potential levers they could potentially use to achieve the outcomes they are looking for.

The themes and framework from this study have also provided a more in-depth understanding of how resilience and thriving at work are related for desk-based workers, building on the findings in previous chapters of this dissertation. It has confirmed that the relationship between resilience and thriving at work is indirect, complex and multi-faceted, and is influenced by multiple personal, relational and workplace factors.

As a start on the further research required to validate the illustrative framework from this study (Figure 2), the two constructs involved in the relationship between resilience and thriving at work that had not been studied previously: prioritising relationships with others and being more authentic at work, were part of the focus of the next study.

Chapter 7

Exploring Potential Mediators in the Relationship Between Resilience and Thriving at Work

Previous chapters have established that while resilience and thriving at work are related for desk-based workers, they are not the same, and the relationship between them is complex, involves multiple factors, and is highly context-dependent. Multiple potential influencing factors, mediators and moderators of the relationship exist, as discussed in Chapter 4 and depicted in the framework illustrating the relationship created in Study 3 as described in the previous chapter (see Figure 2 on page 103).

The study outlined in the previous chapter identified two potential mediators between resilience and thriving at work that have not previously been researched: prioritising relationships with others and being more authentic at work. Clarifying and confirming mediators in the relationship between resilience and thriving at work will provide supporting evidence for the framework from Study 3. The accuracy of that framework is necessary to ensure it can provide evidence-based help to support organisations and employees to identify potential areas of intervention and action to produce their desired outcomes.

The next study, outlined in this chapter, therefore explored the relationships between resilience at work, thriving at work and several factors that had been identified as mediators. These included the two newly identified potential mediators: prioritising relationships with others and being more authentic at work. Two other mediators were also examined, sense of coherence and psychological wellbeing, as each of these had been identified as closely related to those constructs in the study outlined in Chapter 4 and in previous research (see section 7.1.3 below). The study was correlational, using an online questionnaire and mediation analysis (structural equation modelling) to explore the relationships of potential mediators with resilience and thriving at work. The objective was to confirm part of the final framework created in Chapter 4 (Figure 2) that had not been previously researched.

7.1 Study 4 Methods

7.1.1 Design

This was a correlational questionnaire study. All participants completed a Qualtrics survey containing measures of resilience at work, thriving at work, wellbeing, individual authenticity at work, communion striving (how far people strive to build relationships at work), psychological wellbeing and sense of coherence at work.

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number LMS/PGR/UH/05490.

7.1.2 Participants

As in previous studies, UK participants were recruited via Prolific, the online platform designed to provide vetted participants for academic research (see section 3.3.4 on page 39). Prolific was set to ensure equal numbers of male and female responses and the same questions were used to screen participants to ensure they met the research criteria. The screening questions used in Prolific were repeated in the Qualtrics survey to ensure the answers from participants were still valid, and participants who did not meet the screening criteria were removed from the study.

7.1.3 Questionnaire Design

Conceptualising and Measuring the Constructs

The main constructs of interest in this study (in addition to resilience and thriving at work) were prioritising relationships with others and being authentic at work, as they did not appear in any of the meta-analyses and structured reviews on resilience or thriving at work (see section 4.8). Over 40 measures (Appendix P) were considered in designing this study, in order to find those measures which most closely related to the constructs to be studied as they were outlined by participants in the study documented in Chapter 4.

Prioritising Relationships With Others: While positive and supportive relationships of various kinds have been shown to be important for both resilience at work (Hartmann et al., 2020) and thriving at work (Goh et al., 2022; Kleine et al., 2019), no research has taken place looking at the prioritisation of quality relationships with others (as opposed to purely the possession of such relationships) and how that might relate to either resilience or thriving at work. This was illustrated by how hard it was to find a measure for the construct. After failing to find a single appropriate measure for the construct, appealing to the positive relationships at work micro-community resulted in a suggestion of a measure, the measure of communion striving (Barrick et al., 2002). Communion striving is defined as “actions directed toward obtaining acceptance in personal relationships and getting along with others ... at work” (Barrick et al., 2002, p. 44). The associated measure is a 9-item scale covering 3 sub-areas: the attention paid to relationships at work, the intensity and persistence in building relationships at work, and the level of emotion involved in building relationships at work.

Being Authentic at Work: Wood et al. (2008) define authenticity as “comprised of self-alienation, accepting external influence, and authentic living” (p. 387). Self-alienation is defined as “the subjective experience of not knowing who one is.” (van den Bosch & Taris, 2014, p. 3). Accepting external influence is “the extent to which one accepts the influence of other people and the belief that one has to conform to the expectations of others.” (Wood et al., 2008, p. 386). Authentic living “involves being true to oneself in most situations and living in accordance with one’s values and beliefs” (Wood et al., 2008, p. 386). Van den Bosch and Taris (2014) built Wood et al. (2008)’s definition and its associated measure when developing their theory-based Individual Authenticity Measure at Work (IAMW). The IAMW specifically focuses on authenticity at work rather than general authenticity, and also on a state rather than trait conceptualisation of authenticity – suggesting that authenticity can change according to a person’s role and context, which fits well with this research. The IAMW is a 12-item measure with 3 subscales, one for each of the components of the definition of authenticity.

Sense of Coherence: Antonovsky (1987) defined Sense of Coherence (SoC) as incorporating three components in the way a person sees the world: comprehensible (i.e., rational, understandable, consistent and predictable), manageable (i.e., personal resources match demands) and meaningful (i.e., challenging and worth making commitments for) (Frenz et al., 1993). Sense of coherence has been identified as a potential antecedent to resilience in existing research (Chmitorz et al., 2018; Helmreich et al., 2017), but not as an outcome from resilience, or related to thriving (see Chapter 4). However, in the framework developed in the previous study (Figure 2 on page 103), the increased clarity resulting from resilience could be related to an increased sense of coherence. Given this potential for an expanded interpretation of the framework in Figure 2, the researcher decided to include the 13-item sense of coherence scale (SoC) (Antonovsky, 1993) in this study alongside the IAM Work measure. The SoC questionnaire is well-validated, having been used in hundreds of studies across multiple countries (Eriksson & Contu, 2022; Eriksson & Lindström, 2005).

Psychological Well-Being: The researcher also chose to include Ryff’s psychological well-being scale (Ryff, 2013; Ryff & Keyes, 1995). This is because the six distinct components of positive psychological functioning measured in this scale are all relevant to constructs of interest. The positive relations dimension, while measuring the “possession of quality relationships with others” (Ryff & Keyes, 1995, p. 720) rather than the prioritisation of those relationships, is related to the prioritising relationships with others construct. The self-acceptance (“positive evaluations of oneself and one’s past life” p. 720), environmental mastery

(“the capacity to manage effectively one's life and surrounding world” p. 720), purpose in life (“the belief that one's life is purposeful and meaningful” p.720) and autonomy (“sense of self-determination” p. 720) dimensions are all related to the being authentic at work and sense of coherence constructs. The personal growth dimension (“a sense of continued growth and development as a person” p.720) is directly related to the growth aspect of the thriving at work construct. The short 18 item version of the Psychological Well-Being measure (PWB) (Ryff, 2020) was used in the survey, as it has been widely used and is well-validated, and to keep the overall length of the survey manageable.

Thriving at Work: The Thriving at Work Scale (TAW) (Porath et al., 2012) 11 items; as used in the previous studies.

Resilience at Work: The Resilience subscale (PsyCapR) of the Psychological Capital questionnaire (Luthans et al., 2007) 6 items; as used in Study 2b. This was chosen over the Brief Resilience Scale (BRS) (B. W. Smith et al., 2008) used in Study 1 and Study 2, as it is focused on resilience at work, rather than general resilience. Study 2b also showed that while there is an expected strong correlation between the PsyCapR and BRS, they are different and have slightly different correlations with other factors. Given this research is focused on resilience at work and its relationship with thriving at work for desk-based workers, it seemed more appropriate to use the PsyCapR measure rather than the BRS for this study.

Wellbeing: ONS4 Personal well-being questions (ONS) (Office for National Statistics, 2021; VanderWeele et al., 2020) 4 items; as used in the previous studies.

Survey Design

The survey included consent information, prolific pre-screening questions and the above validated measures. It completed with the same demographic questions as in previous studies: age range, gender, country, and ethnicity; and questions about work: area of work, full/part time, manager (yes/no), how long at current job, and level of job stress. Participants were given the option to enter a code to be used to identify their data if they wished to be removed from the study at any point. As in previous studies, attention questions were added to each measure with 6 items or more as recommended by Prolific (Prolific.com, 2023). Participants who failed two or more attention questions were automatically removed from the study while it was open. Participants who failed one attention question were manually removed after the study closed to participants.

7.1.4 Hypotheses

There were two main hypotheses for the study:

H₁: *Prioritising relationships with others, being more authentic at work and having a sense of coherence are positive mediators between resilience at work and thriving at work for desk-based workers.*

H₂: *Each sub-dimension of psychological wellbeing is a positive mediator between resilience at work and thriving at work for desk-based workers.*

7.1.5 Procedure

The online survey was administered in November 2023. As in previous studies, participants were emailed invitations to participate in the study by Prolific and accessed the online questionnaire using a link to Qualtrics from Prolific. The resulting questionnaire data was then interrogated using SPSS and AMOS software to explore the relationships between the variables.

7.2 Study 4 Results

7.2.1 Demographics

The 241 participants ranged in age from 18 to 74 with 29% between 25 and 34, 34% between 35 and 44 and 24% between 45 and 54. As in previous studies they were predominantly white (88%), with the remainder Asian (7%), Black (3%) or Mixed/Other (2%). 52% were managers. 92% worked full time. 50% had been in their current role for 5+ years, 26% between 1 and 3 years and 10% less than a year. Detailed demographic information is found in Appendix Q.

7.2.2 Internal Consistency of Measures

The Cronbach alpha coefficient was between 0.77 and 0.96 for all measures, indicating adequate to very good internal consistency for this sample, except the Sense of Coherence (SoC) scale which had a Cronbach alpha coefficient of 0.69 (Table 20). Although not ideal, this is only just below the usual cut-off of .7 for adequate internal consistency, and in line with other studies using this measure (Eriksson and Lindström (2005)'s systematic review found Cronbach alpha for the SoC-13 ranged from .70 to .95 across 127 studies) so the measure was retained.

Table 20: Internal Consistency of Measures in Study 4

Measure	Cronbach's Alpha	N of Items
Thriving at work scale (TAW)	0.96	11
PsyCap resilience subscale (PsyCapR)	0.77	6
Communion Striving Scale (CSS)	0.84	9
Individual Authenticity Measure at Work (IAMW)	0.84	12
Sense of Coherence Scale (SoC)	0.69	13
Psychological Well-being Scale (PWB)	0.84	18
Wellbeing (ONS)	0.85	4

However, many of the individual sub-scales for psychological well-being (PWB) did not have good internal consistency - see details in Table 21 below. On reflection, this was not unexpected, as this short version of the scale is known to be much less accurate than longer versions (Ryff, 2020), with only 3 items per dimension.

Table 21: Internal Consistency of Subscales of Psychological Well-Being (PWB)

Subscale of Psychological Well-being	Cronbach's Alpha	N of Items
Autonomy	0.65	3
Environmental Mastery	0.77	3
Personal Growth	0.52	3
Positive Relationships	0.60	3
Purpose in Life	0.25	3
Self-Acceptance	0.78	3

Therefore, the psychological well-being scale was not split into its subscales in subsequent analysis. Due to this issue, H₂: *Each sub-dimension of psychological wellbeing is a positive mediator between resilience at work and thriving at work for desk-based workers* was not investigated further in this study.

7.2.3 Data Normality

As in previous studies, investigating the data using descriptive statistics indicated that there were few outliers and the 5% Trimmed mean was not very different from the mean for each measure, so outliers were retained (Pallant, 2016, p. 65; Tabachnick & Fidell, 2013, p. 77). Tests for normality (Table 22 below) suggested that the data were normally distributed for the PWB (Kolmogorov-Smirnov statistic $p=.07$) but not normally distributed for the other scales (Kolmogorov-Smirnov statistic $p<.05$). As previously mentioned, this is not unusual (Pallant, 2016, p. 63; Tabachnick & Fidell, 2013, p. 80). All measures were skewed slightly positively, except for the Sense of Coherence scores which were skewed slightly negatively. However, given the sample is large, skewness and kurtosis should not make “a substantive difference to the analysis” (Tabachnick & Fidell, 2013, p. 80). Inspecting the histograms resulted in judging that

the data were sufficiently normally distributed to use Pearson product-moment coefficients for correlations. Detailed information and the histograms are in Appendix R.

Table 22: Descriptive Statistics and Data Normality Tests for Study 4

	N	Min	Max	Mean	SD	Skewness		Kurtosis		Kolmogorov-Smirnov ^a		
						Stat.	Std. Err.	Stat.	Std. Err.	Stat.	df	Sig.
Thriving at Work (TAW)	241	1	7	4.56	1.32	-0.40	0.16	-0.55	0.31	0.09	241	<.001
Resilience at Work (PsyCapR)	241	13	36	27.44	4.23	-0.42	0.16	0.38	0.31	0.09	241	<.001
Communion Striving (CS)	241	1	5	3.07	0.65	-0.25	0.16	0.53	0.31	0.06	241	0.04
Individual Authenticity Measure at Work (IAMW)	241	20	82	55.71	10.68	-0.59	0.16	0.67	0.31	0.10	241	<.001
Sense of Coherence (SoC)	241	30	88	55.54	10.43	0.30	0.16	0.19	0.31	0.08	241	<.01
Psychological Well-being (PWB)	241	47	120	88.82	14.71	-0.26	0.16	-0.38	0.31	0.06	241	0.07
Wellbeing (ONS)	241	4	41	26.24	7.717	-0.63	0.16	0.13	0.31	0.11	241	<.001

^a. Lilliefors Significance Correction

7.2.4 H₁: Prioritising Relationships With Others, Being More Authentic at Work and Having a Sense of Coherence are Positive Mediators Between Resilience at Work and Thriving at Work for Desk-Based Workers.

Firstly, Pearson product-moment correlations between the variables of interest were examined using SPSS software, to see what overall relationships might be involved. Details are shown below in Table 23. The correlation between thriving at work (TAW) and resilience at work (PsyCapR) was statistically significant and .30 (p<.01), much lower than in Study 2b, and in line with the correlation of resilience (BRS) with thriving at work (TAW) in Studies 1, 2 and 2b.

As expected, there was a weak to moderate positive statistically significant correlation between thriving at work, resilience at work, and all the other variables, with one exception: prioritising relationships with others (CS) had a weak statistically significant *negative* correlation of -.25 with resilience at work (PsyCapR). (See Table 23 below).

Table 23: Pearson Product-Moment Correlations for Study 4

	TAW	Psy CapR	CS	IAMW	SoC	PWB	ONS
Thriving at Work (TAW)	--						
Resilience at Work (PsyCapR)	.30**	--					
Communion Striving (CS)	.32**	-.25**	--				
Individual Authenticity Measure at Work (IAMW)	.44**	.46**	-.02	--			
Sense of Coherence (SoC)	.46**	.36**	.11*	.42**	--		
Psychological Well-being (PWB)	.46**	.42**	.00	.45**	.60**	--	
Wellbeing (ONS)	.59**	.40**	.13*	.48**	.64**	.62**	--

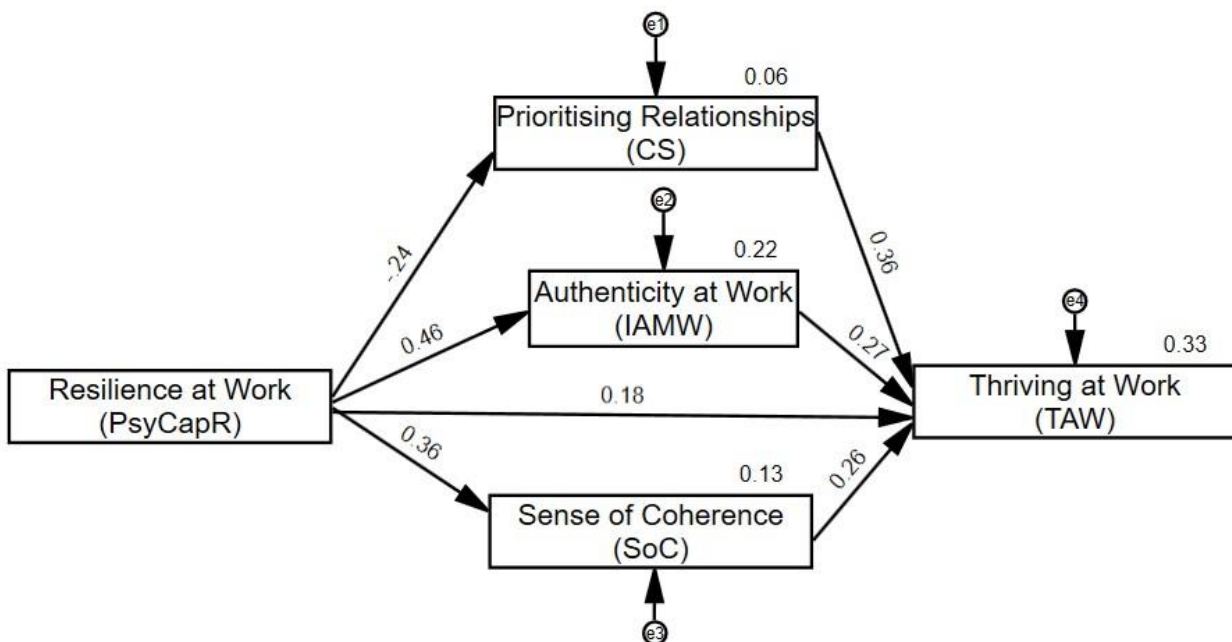
** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

Structural equation modelling was then employed for mediation analysis. AMOS and SPSS software were used to assess the mediating role of prioritising relationships with others (measured with the Communion Striving (CS) scale), authenticity at work (measured by the Individual Authenticity Measure at Work (IAMW) scale), and sense of coherence (measured by the Sense of Coherence (SoC) scale) on the relationship between Resilience at Work (PsyCapR) and Thriving at Work (TAW).

The model results are shown in Figure 3 below (standardised effects shown).

Figure 3: Mediation Analysis Model - Study 4



The study found statistically significant mediating roles for both authenticity at work (IAMW) and sense of cohesion (SoC) on the relationship between resilience at work (PsyCapR) and thriving at work (TAW) ($b = .038, t = 3.45, p < 0.001$ and $b = .028, t = 3.5, p < 0.001$).

Prioritising relationships with others (CS) was also found to be a statistically significant mediator between resilience at work (PsyCapR) and thriving at work (TAW) ($b = -.026$, $t = 2.89$, $p < 0.001$) even though the relationship was negative between resilience at work and prioritising relationships with others. These results support H_1 : *Prioritising relationships with others, being more authentic at work and having a sense of coherence are positive mediators between resilience at work and thriving at work for desk-based workers.* The direct effect of resilience at work (PsyCapR) on thriving at work (TAW) in presence of the mediators was also found significant ($b = .054$, $p < .01$). Hence, the three mediators partially mediated the relationship between resilience at work (PsyCapR) and thriving at work (TAW). The mediation analysis summary is shown in Table 24 below.

Table 24: Mediation Analysis Summary for Study 4

Relationship	Direct Effect	Indirect Effect	Confidence Interval		p-value	Conclusion
			Lower Bound	Upper Bound		
PsyCapR → CS → TAW		-0.026	-0.047	-0.110	<.001	Partial mediation
PsyCapR → CS → TAW	.054 ($p < .01$)	0.038	0.018	0.061	<.001	Partial mediation
PsyCapR → CS → TAW		0.028	0.014	0.046	<.001	Partial mediation

7.3 Study 4 Discussion

The results of this study confirm the roles of authenticity and sense of coherence as mediators in the relationship between resilience at work and thriving at work. However, the regression coefficients (b-values) for the mediating factors are almost zero, even though statistically significant, indicating that each factor plays an extremely minor role (potentially almost no role on its own) as a mediator. The regression coefficient for the direct relationship in the presence of mediators is also very small. This adds weight to the conclusions drawn earlier in this research that the relationship between resilience and thriving at work is indirect, context-dependent and may involve a multiplicity of factors. The very small relationship is in accordance with the literature on resilience and thriving at work, which highlights that no single factor has a large impact on either construct (Kleine et al., 2023; J. J. W. Liu et al., 2020; Porath et al., 2022; Southwick et al., 2014; Spreitzer et al., 2005; Vanhove et al., 2016). Further research is needed, focusing on more and different factors in the proposed framework from this research (Figure 2 on page 103), to find if other factors, or combinations of factors, have more impact on the relationship between resilience and thriving at work for desk-based workers. On the other hand, given the context-dependent nature of both resilience and thriving at work, as highlighted in the

literature (see Chapter 4), it may be that no single factor or factors has any major impact on their relationship e.g., “specific determinants generally serve as relatively weak predictors of resilience by themselves and explain a relatively small piece of the puzzle” (Southwick et al., 2014, p. 11).

The negative correlation and mediation relationship of prioritising relationships with others (CS) with resilience at work (PsyCapR), suggests that it may not be an outcome of resilience at work, despite being a potential mediator of the relationship between resilience and thriving at work. On reflection, this is not entirely surprising – adversity and stress often causes people to narrow their attention (Prinet & Sarter, 2015). While all the participants in Study 3 highlighted supportive relationships as helpful for their resilience at work, they usually mentioned only one or at most two. So perhaps resilience involves focusing on a small number of key relationships rather than prioritising relationships more generally. This requires further research.

Given the positive correlation with thriving at work (TAW), prioritising relationships with others was clearly a supportive factor for Thriving at Work, so could still be an intervention area of interest for both individuals and organisations looking to increase thriving at work. This is supported by other research, which highlights building both community and high quality relationships as ways to support thriving at work (Porath et al., 2022) and authentic leadership as an antecedent of thriving at work (D. Liu et al., 2021).

As a result of this study, the framework developed in the previous study was updated to remove prioritising relationships with others from the core relationship between resilience and thriving at work, and instead add it as a supportive relationship factor for thriving. The revised framework is shown in Figure 4 on page 119 below.

7.3.1 Study 4 Limitations

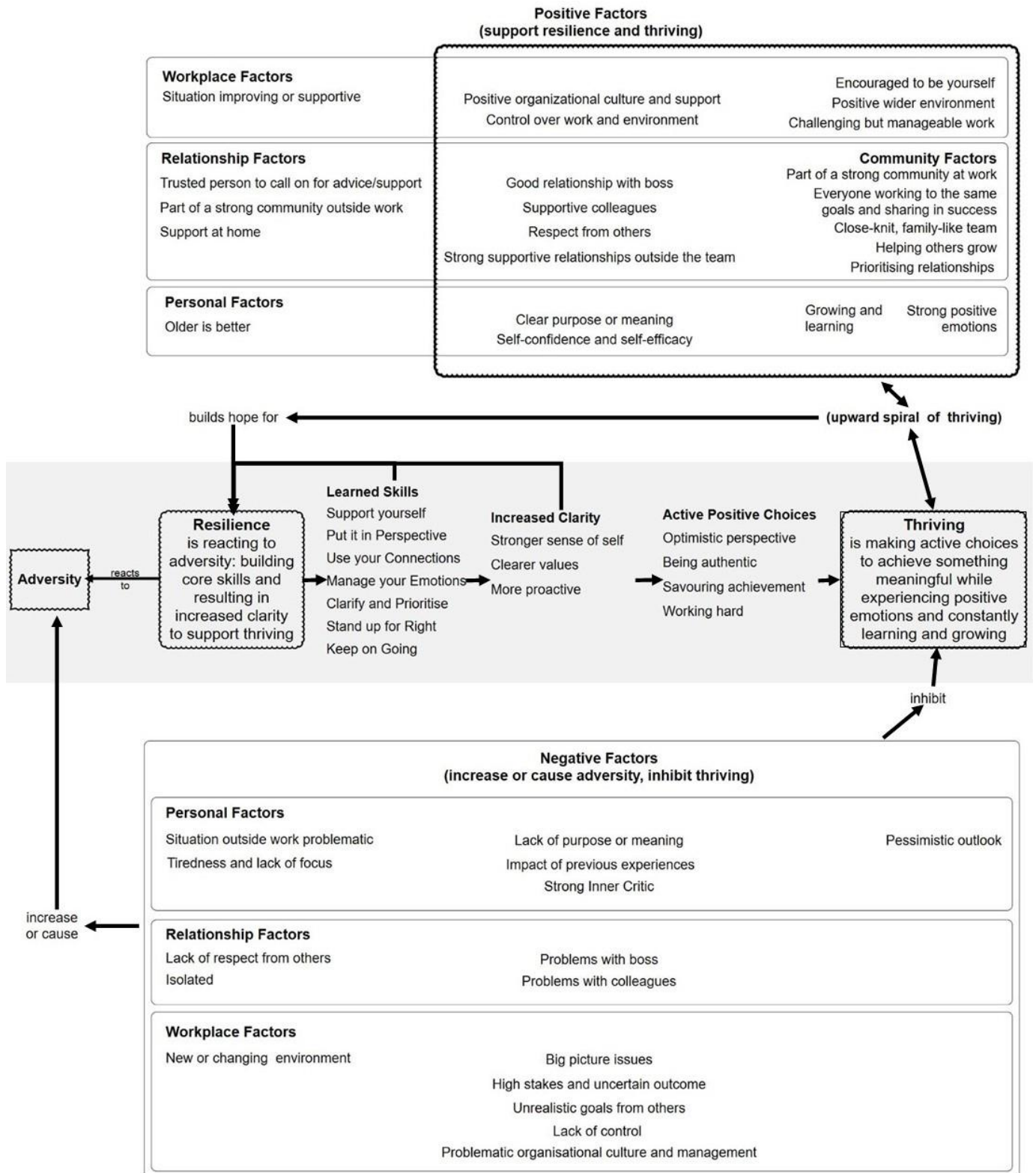
Again, participants were recruited via Prolific and self-selected to participate in the study. Therefore, they may not be representative of a standard UK population. Also, results may not be valid for non-UK populations, or non-white UK populations, given the overwhelmingly white nature of the participants.

Again, all measures were self-report, and therefore may be subject to bias and social desirability.

This study examined only three potential mediators in the relationship between resilience and thriving at work. Much more work is needed to investigate the suggested framework

illustrating that relationship shown in Figure 4 below, exploring both potential mediators and moderators, and also considering multiple factors at the same time.

Figure 4: Revised Framework Illustrating the Relationship Between Resilience and Thriving at Work for Desk-based Workers



7.4 Summary

This study confirmed a small part of the framework illustrating the relationship between resilience and thriving at work developed in the previous chapter, and also indicated a change in that framework, as shown in Figure 4 above. It added weight to the previous findings in this research: that resilience and thriving at work are related, but not directly, and that the relationship is complex and involves a multitude of factors.

Given the researcher's interest in practical applications of the research, the next chapter changes tack. It focuses on the potential application of these findings in the real world, illustrating how they might be used to increase resilience and/or thriving at work for employees, and therefore benefit them and their organisations.

Chapter 8

A Potential Intervention to Promote Thriving at Work

Up until this point this research was mainly theoretical and focused on exploring and clarifying the relationship between resilience and thriving at work. However, as the researcher is primarily a practitioner, the final study focused on an intervention – a targeted activity – to illustrate how the results of this research could be applicable in real life situations.

This research has shown that resilience at work is related to thriving at work through multiple factors, and that thriving at work has a stronger correlation with four key work-related outcomes: work engagement, job satisfaction, career satisfaction and organisational commitment. The researcher's original interest in this research included understanding how to thrive at work even under adverse conditions (see Chapter 1). The desired intervention outcome for participants in this study was therefore chosen to be thriving at work.

The framework developed in this research (Figure 4 on page 119) gives multiple targets for interventions that might increase resilience or thriving at work, with the attendant expected positive outcomes (see Chapters 4 and 5). Any of the factors in that framework could potentially be used as a lever to improve resilience or thriving at work. Since they had already been demonstrated to have positive relationships with thriving at work, two constructs that were researched in Study 4, prioritising relationships with others and being more authentic at work, were chosen as the focus for the intervention.

The intention for this study was to not only to increase thriving at work for the participants, but also to demonstrate the value of the framework as a useful tool for designing interventions to achieve valued goals for both individuals and organisations.

This chapter first reviews what is known about interventions to build thriving or resilience at work, before explaining how the intervention was designed and the plan for its evaluation. The study and its results are then described in detail, and the implications discussed.

8.1 Interventions to Build Thriving and/or Resilience at Work

As discussed in Chapter 2, research has highlighted several underlying assumptions for interventions to build thriving and resilience at work: (a) resilience and thriving at work are common – anyone can have or build them; (b) resilience and thriving at work can be taught, and (c) resilience and thriving at work are different for different people and different situations.

The literature was examined to understand what interventions have been shown as effective in building thriving at work. Since this research has also shown that resilience at work, may support thriving at work, and there are many factors potentially impacting both, the literature on resilience interventions was also considered. This provided a wider range of possible interventions that might be used to increase thriving at work as many more resilience interventions have been studied (J. J. W. Liu et al., 2020) than thriving at work interventions (Goh et al., 2022; Kleine et al., 2019; Porath et al., 2022). The relationship between resilience and thriving at work found in this research also poses the question as to whether the same intervention could target both resilience and thriving at work, and if specific interventions are more effective for one, the other or both.

There are two aspects to the question of what interventions may impact thriving and resilience at work: what can employees do individually, and what can organisations do to support their employees in developing and sustaining resilience and thriving at work? Note that these are not necessarily separate questions: Walton and Wilson (2018) discuss wise interventions that promote recursive change in individuals and situations, where changes in the situation or how people view themselves can lead to altered behaviour which then improves the situation, increases positive beliefs and promotes more adaptive behaviours which improves the situation again ... developing a virtuous spiral. This is similar to the upward spiral proposed by Spreitzer et al. (2005) in their theoretical model of thriving at work. It also reflects aspects of the Job Demands-Resources model, which posits the potential for upward spirals of resources (Bakker et al., 2004; Bakker & Demerouti, 2017).

While much research has been devoted to these questions, no one approach or intervention has been shown to be effective for everyone in any situation (Bonanno, 2020, 2021; Brassington & Lomas, 2021; J. J. W. Liu et al., 2020, 2022; Porath et al., 2022; Spreitzer et al., 2012; Ungar, 2018; Vanhove et al., 2016). The lack of clarity on how to operationalise both thriving and resilience at work and the wide variety of environments, populations and target outcomes can strongly influence the effectiveness of an intervention for any given individual or organisation. For example, in their recent comprehensive meta-analysis of 268 studies of individual resilience interventions across all populations (not just a work environment), J. Liu et al. (2020) concluded that “intervention effects, if any, are minimal, and contextualized within specific combinations of interventional approaches, targeted populations, and outcome measures assessed.” (p. 14).

Researchers have suggested that while being able to deliberately modify resilience and thriving at work can be good for both organisations and individuals (Chmitorz et al., 2018; Hartmann et al., 2020; Helmreich et al., 2017, p. 2; Kleine et al., 2019; J. J. W. Liu et al., 2020; Porath et al., 2022; Vanhove et al., 2016), nevertheless care needs to be taken to ensure that existing resilience or thriving is not adversely impacted by the intervention: “we have to make sure that we are not undermining people’s natural resilience” (Southwick et al., 2014, p. 10). The time-based nature of resilience and thriving at work also suggests that “some interventions may be more effective at one time point than another” (Southwick et al., 2014, p. 12). All these points should be considered when designing an intervention. “Based on differences in the background and needs of the targeted population, the types of exposure to stress they are encountering, their available resources and access to intervention services, the logistical considerations of research, and the available assessment tools to capture changes, different types of resilience-promotion interventions may be offered under different circumstances.” (J. J. W. Liu et al., 2020, p. 2)

This complexity has not deterred both the business and research communities from designing and researching both individual and organisational level interventions for each of resilience and thriving at work. Many interventions have been shown to be effective for specific targets in specific situations (J. J. W. Liu et al., 2020; Porath et al., 2022; Porath & Porath, 2020; Spreitzer et al., 2012; Vanhove et al., 2016).

From an individual perspective, many approaches to building thriving and resilience at work have been identified, targeting multiple factors and outcomes, and using a variety of different approaches. They can range from suggestions for specific small changes to be made by individuals (Bonanno, 2020; Porath & Porath, 2020; Vanhove et al., 2016) through to large organisational programmes intended to target multiple factors for a wide range of people, such as the US Army’s Master Resilience Trainer course (Reivich et al., 2011).

Individual approaches to developing resilience can be considered of two types: those that focus on building resources to prevent the negative effects of future stress, or those that focus on mitigating symptoms of existing stress (Vanhove et al., 2016). They can be classified into six main approaches: mindfulness/meditation, physical activity, social support (e.g., connecting with others, networking), psychoeducation (teaching people how to be more resilient or to thrive more e.g., different coping strategies), evidence-based treatments (e.g., coaching, cognitive behavioural therapy) and other (e.g., music, pet therapy) (Joyce et al., 2018; J. J. W. Liu et al., 2020). Vanhove et al. (2016) found that interventions using a “one-on-one delivery format (e.g., coaching) were most effective, followed by the classroom-based group delivery format” (p.278).

and that self-guided computer-based or train-the-trainer approaches were less effective. They also found that the effects of interventions lasted longer for those “at greater risk of experiencing stress or who lack protective resources” (p. 278).

Fewer interventions have been researched for individual thriving at work than for resilience at work (Kleine et al., 2019), but Porath et al. (2022) suggest three pathways. The first is self-care, such as prioritising good sleep, taking regular breaks, prioritising mental and physical health, adapting work to be more meaningful, and participating in non-work activities such as hobbies, activities that bring joy and spending time with friends and family. The second is building and sustaining high quality relationships, by focusing on mutual respect and civility, helping others, and play (e.g., organising a social event). Their final pathway is building community both within and outside the organisation, including collaborating with communities with which the organisation does business, participating in local neighbourhood activities, such as community sports, spiritual communities, or volunteer programs, and joining communities of practice (online and offline) to build community around their industry or work.

There are also multiple ways an organisation can support thriving and resilience at work for its employees. In addition to providing training programmes and classes which target individuals (e.g., access to a gym, meditation sessions, resilience training), an organisation’s structure and culture can be a powerful influence on supporting or depleting both resilience and thriving at work. For example, based on their theoretical model of thriving at work (2005), Spreitzer et al. (2012) identified and researched five changes organisations could make to increase thriving in their employees: authorise employees to make decisions affecting their own work, share information effectively and widely about the organisation and its strategy, enforce a positive climate of respect that minimises incivility, provide frequent, specific performance feedback (positive and negative) – potentially using 360-degree evaluations to give a fuller picture, and promote diversity and inclusiveness.

No research has taken place on whether specific interventions could impact both resilience and thriving at work, but the overlap of multiple antecedents as described in Chapter 4 suggests that this is possible or indeed likely. Just comparing the interventions outlined above (J. W. Liu et al., 2020; Porath et al., 2022; Spreitzer et al., 2012) highlights potential crossovers e.g., physical activity and connecting with others. Further research is needed to confirm potential crossover interventions and identify the level of impact of such interventions on both resilience and thriving at work for specific individuals in particular contexts.

In choosing an intervention, it is important to be clear on its specific objective(s). This research has highlighted the variety of beneficial outcomes and many possible antecedents that may influence both thriving and resilience at work (see Chapter 4 and Figure 4 on page 119). An intervention could be targeted specifically at increasing thriving or resilience at work (or both) *per se*. Alternatively, one or more of the antecedents (e.g., social support, emotional stability or job autonomy), or outcomes (e.g., performance or work engagement) might be the focus, with resilience or thriving at work expected to be an outcome or antecedent but not directly targeted. Only when the goal is clear can an appropriate intervention be chosen and suitable measures of its impact be identified (Bonanno, 2021; J. J. W. Liu et al., 2020).

8.2 Designing the Intervention for This Study

This study's overall objective was to illustrate how the framework for the relationship between resilience and thriving at work that was developed in this research might be used in the real world to improve thriving at work. Pragmatic issues for this study such as time constraints and lack of access to an appropriate partner organisation dictated focusing on interventions for individuals, rather than organisational level interventions.

The overall intended result of the intervention was to increase thriving at work for desk-based participants. Therefore, to achieve the study's overall objective participants needed to:

- increase their awareness of the importance of one or more factors that might influence their thriving at work (ideally based on the illustrative framework of the relationship between resilience and thriving at work identified by this research);
- identify actions they could take specific to their situation;
- take those actions; and
- experience an increase in their thriving at work.

Many of the interventions listed in the previous section could have been used for this purpose. The researcher considered the checklist of criteria established by IJntema et al. (2019) for designing resilience-building programs, to clarify how to choose a good intervention. A coaching intervention was chosen as a good fit with the objectives of the study, the experience of the researcher and a psychometric developed by the sponsoring organisation, Peopewise Ltd.

The researcher is an experienced coach and organisational consultant. Coaching has been shown to have good outcomes in building each of resilience and thriving at work (Grant et al., 2009, 2010; Grant & Atad, 2022; Kleine et al., 2019; D. Liu et al., 2021; McEwen, 2018; C. L. Smith, 2017; Vanhove et al., 2016). Coaching was also the most effective approach noted in

Vanhove et al (2016)'s meta-analytic review of the effectiveness of resilience-building interventions at work. Coaching can include an element of education in addition to its focus on providing a non-judgemental reflection space and helping clients identify specific actions that might help to achieve their goals (Grant, 2017a; Grant et al., 2009). All these points suggested that coaching would be an excellent choice to meet the study objectives. Prioritising relationships with others and authenticity at work were confirmed in the previous study as factors in the framework developed in this research (Figure 4 on page 119) that support thriving at work. These factors were therefore chosen to be discussed during a semi-structured coaching conversation focused on increasing thriving at work.

Only one session of coaching could be provided for study participants within the available timeframe and resources of the study. This meant that the intervention ideally needed to give participants a common, research based, understanding of the main concepts (especially resilience and thriving and how they might be developed) prior to the coaching session. The coaching itself could then be focused on how participants might prioritise relationships with others or be more authentic at work, to hopefully increase their thriving at work.

There are many well-known psychometrics and assessments commonly used in organisations e.g., the Big Five Personality Model (OCEAN: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) (Barrick et al., 2002; Barrick & Mount, 1991) and Gallup assessments (www.gallup.com) like the Clifton Strengths Inventory and their Q¹² Employee Engagement Survey. However, very few focus specifically on developing an understanding of and building resilience and thriving at work. Peoplewise Ltd, the sponsor for this research, have developed a research-based, validated, online psychometric for measuring and reporting on an individual's current state of resilience and thriving at work: the Peoplewise Positive Resilience Profiler (PRP) (Board et al., 2021). The PRP consists of validated measures of each of seven factors ('pillars') that make up the Peoplewise construct of Positive Resilience: purposefulness, perspective, control, connection, growth, coping and wellbeing. Scores are calculated and normalised against a bank of similar working professionals by the Peoplewise system, Enable. A link to a detailed report is emailed to participants as soon as they have completed the online questionnaire. The PRP report contains a score for and information about the individual's overall Positive Resilience normalised against similar working professionals, plus a breakdown by each of the seven 'pillars' mentioned above, including definitions and a summary of related research. It highlights areas of strength and/or development across the seven 'pillars' plus suggested evidence-based actions to increase scores.

The researcher was confident that the PRP psychometric and the associated report would be a good educational tool and potential intervention for all participants. She had focussed a large part of her PhD internship year with Peoplewise Ltd on (a) confirming and updating the research basis for the PRP (Board et al., 2021); (b) updating the educational content on resilience and research-based action suggestions within the PRP report; and (c) developing training materials for individuals and organisations wishing to take the PRP and for those wishing to be accredited to deliver the PRP within their own organisation or practice. She had also used the PRP report as a basis for coaching and had found it an excellent way to spark in-depth coaching conversations that resulted in client action to increase their resilience and thriving at work.

The PRP report was therefore chosen as a tool to be taken by all participants, both those to be coached and the control group. Peoplewise Ltd generously gave permission for the PRP to be used in this study. The intervention was structured as follows: all participants completed the PRP questionnaire online and received their associated report. The control group received no further intervention, while the PRP report was used as a starting point for a single semi-structured coaching session for the intervention group. The coaching session also included discussion of findings from this research about the potential impact of prioritising relationships with others and being authentic at work on thriving at work. Coached participants were encouraged to identify specific actions they would take after the session finished. The coaching session outline structure is in Appendix S. This intervention would meet all the objectives of the study, as outlined at the beginning of this chapter.

8.3 Evaluating the Intervention

Many of the structured reviews and meta-analyses into resilience and thriving at work research comment on the difficulty of evaluating interventions due to differences in contexts and the multitude of factors that may influence or result from the two constructs. Many studies use quantitative measures, usually of multiple factors that the study designers consider could be impacted by the intervention. For example, Liu et al. (2020), in their meta-analysis of resilience interventions, showed that only 12% of such studies included a resilience measure, and identified six other types of intervention outcomes measured instead or in addition: action (e.g., changes in activities or behaviours), biophysical (e.g., physical measures such as BMI or cortisol), coping (e.g., new coping skills), emotion (e.g., anger, happiness), symptoms (e.g., anxiety, depression), and well-being (from many perspectives including quality of life, energy and social support).

This study was designed to illustrate the potential value of the framework of the relationship between resilience and thriving at work as a basis for designing interventions in the real world to increase thriving at work. The overall result to be measured was the impact on participants' thriving at work. It was also important to evaluate the intervention's effectiveness in meeting the sub-objectives listed in the previous section: to clarify what participants had learned about resilience and thriving at work, what actions they were able to identify relating to their learning, and if/how they put these into practice. This suggested that both quantitative and qualitative measures would be useful (Grant, 2017b).

Kirkpatrick (1996)'s well-known four-level approach for evaluation of training programmes therefore seemed appropriate for the evaluation of this intervention. He suggested that four aspects of evaluation should be considered: **reaction** – how participants initially react to the intervention, how well they like it; **learning** – what the participants learned, knowledge they gained, skills they developed or attitudes that changed; **behaviour** – what participants did differently after the intervention; and **results** – which can involve measuring any aspect of final results post-intervention that are considered of value. This approach would help clarify different aspects of the usefulness of the intervention to participants in their specific work situations. It would provide a wide-ranging evaluation to help understand what aspects of the intervention participants found most helpful, which would also be useful to underpin decisions about using the framework from this research more widely.

A questionnaire was designed to measure each of the four Kirkpatrick (1996) levels. Participants were asked evaluation questions across all four levels after the coaching and in the final survey. These evaluation questions were both quantitative (e.g., rating the usefulness of the PRP on a 1-5 Likert scale) and qualitative (e.g., "what did you find most useful about the coaching session?"). Quantitative measures of thriving at work and ONS wellbeing were taken by all participants before and after the intervention, so the results level also included statistical analysis of differences between scores before and after the intervention and between groups.

8.4 Study 5 Methods

8.4.1 Design

This was a mixed-methods intervention evaluation, structured around Kirkpatrick's (1996) approach: reaction, learning, behaviour, results. It was a repeated measures between and within-subject design:

Group 1: took the Peoplewise Positive Resilience Profiler (PRP) and received a link to the PRP report only

Group 2: as above plus 45-60 minute 1:1 coaching session and 30-minute initial feedback interview via Zoom.

All participants took measures of thriving at work and wellbeing at the beginning and end of the study, plus answered evaluation questions structured around Kirkpatrick's (1996) four levels verbally post-coaching (Group 2 only) and in the final study questionnaire.

Ethics Approval was sought and granted from the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority, Protocol Number LMS/PGR/UH/05499.

8.4.2 Participants

UK participants were recruited via a snowball approach: posts were made on LinkedIn describing the study and publicised by the researcher and her PhD sponsor both on LinkedIn and via their personal networks. All participants who took the initial questionnaire and the PRP were emailed an offer of coaching and feedback. Those who replied positively to the email were then placed in Group 2 and scheduled for coaching.

8.4.3 Materials

The study involved:

- An initial Qualtrics Questionnaire including consent information and validated measures: Wellbeing: ONS4 Personal well-being questions (ONS, 2022; Vanderweele et al., 2020) 4 items; Thriving at work: the Thriving at Work measure (Porath et al., 2012) 11 items. These constructs and measures were chosen to be consistent with previous studies in the PhD and were taken by all participants. The end of this initial survey automatically linked to the PRP online measure detailed below.
- The Peoplewise Positive Resilience Profiler (PRP) online measure (Board et al., 2021), 63 items (a published and IP protected questionnaire hosted on a GDPR compliant and secure system, Enable). Demographic information was also collected: email address, age, gender, job level, geography, and ethnicity.
- A consent form for the coaching & feedback interview (for Group 2)
- One-to-one semi-structured coaching (for Group 2). The coaching session structure is provided in Appendix S.

- A one-to-one structured verbal feedback session immediately post coaching (for Group 2), when participants were asked evaluation questions across Kirkpatrick (1996)'s first three evaluation levels: reaction, learning and behaviour. (Appendix T).
- A post-intervention questionnaire on Qualtrics: both groups completed the ONS Wellbeing and Thriving at Work measures as in the initial questionnaire, followed by evaluation questions about their experience of the intervention structured around Kirkpatrick (1996)'s evaluation approach (Appendix T).

8.4.4 Procedure

The study started in November 2023. After participants had taken the initial surveys and received their PRP reports, the data from Qualtrics (both initial and final surveys) was downloaded into spreadsheets. The data was anonymised, with each participant being given an identifier so that pre- and post- data could be collated, with identifying data held in a separate spreadsheet. Participants who responded positively to the emailed offer of coaching were scheduled for a 90-minute zoom session at their convenience with the researcher. Semi-structured coaching took place in the first 45-60 minutes of that session, followed by up to 30 minutes of feedback about their experience of the study.

The PRP report was used as the starting point of the coaching discussion. The coach asked participants about their reaction to the report, how they felt it related to their current work situation, what they could learn from it about their strengths, and how they could use those further to help them at work. Findings from this research were then discussed: authenticity at work and prioritising relationships with others had been shown to influence thriving at work. The coaching then focused on how each construct might influence participants' thriving at work in their current situation, and participants were asked to identify and write down actions related to one or both constructs. Coaching sessions were not recorded or evaluated as part of the study. See outline coaching structure in Appendix S.

During the verbal feedback sessions immediately after the coaching sessions, the researcher asked evaluation questions in the Kirkpatrick (1996) areas of reaction, learning and behaviour (Appendix T). The sessions were recorded, and the Zoom automatic transcripts downloaded. The transcripts were anonymised (using the same identifiers as before, so that they could be collated with other responses from the same participant) and checked for accuracy against the recordings. Once confirmed accurate, the recordings and initial non-anonymous transcripts were deleted.

During January to April 2024, at least one month after their intervention (the initial surveys for Group 1, and the coaching session for Group 2), participants were emailed a link to the final feedback questionnaire on Qualtrics, retaking the ONS wellbeing and Thriving at Work measures and answering evaluation questions about the study organised around all levels of the Kirkpatrick (1996) approach (Appendix T).

The final survey data from Qualtrics was again downloaded into spreadsheets and anonymised. The feedback in the transcripts from the verbal feedback sessions was then split into a spreadsheet, with columns for each question (quantitative and qualitative) and one row per participant. This enabled it to be collated with the information downloaded from the final surveys. Once the final spreadsheets were double-checked, the non-anonymised data from both initial and final surveys was deleted.

8.4.5 Evaluation Approach

The evaluation was conducted according to each level of Kirkpatrick (1996)'s model: reaction, learning, behaviour and results. A convergent mixed-method approach was taken for the evaluation, via a mixture of qualitative and quantitative questions asked post-coaching (for Group 2) and in the final surveys.

For the first three Kirkpatrick (1996) levels: reaction, learning and behaviour, descriptive statistics of the quantitative results (e.g., mean, median and mode) were considered in conjunction with a review of the optional qualitative comments associated with each quantitative question. The mean responses from the two groups were compared using t-tests. The researcher also reviewed, coded and reflected on qualitative responses using reflexive thematic analysis (Braun & Clarke, 2006, 2021a), as detailed in section 3.3.6, both question by question and across the whole study, as it became clear that some responses were relevant across questions and levels of Kirkpatrick (1996)'s model. Themes from the overall analysis were developed relating to the behaviour and results levels. These themes are discussed in the relevant sections below.

The Kirkpatrick (1996) results level of the evaluation also examined the quantitative measures of wellbeing and thriving at work via t-tests, to identify if there was a measurable difference in scores before and after the intervention, and between the two groups, although the small numbers of participants meant the results would probably only be indicative not conclusive. This involved testing three hypotheses:

H₁: *Thriving at work and wellbeing will increase after taking the PRP and receiving the report for Group 1 (not coached).* That is, just taking the PRP and receiving the report will help increase thriving at work and wellbeing.

H₂: *Thriving at work and wellbeing will increase after the coaching session for Group 2.* That is, the semi-structured coaching focussing on prioritising relationships with others and being more authentic at work will help increase thriving at work and wellbeing.

H₃: *There will be a greater increase in thriving at work and wellbeing for Group 2 than Group 1.* That is, the coaching will have more impact than just taking the PRP and receiving the report.

Themes resulting from reflexive thematic analysis (Braun & Clarke, 2021a) of the qualitative questions were then used to consider the participants' experience of the intervention, alongside the quantitative results.

8.5 Study 5 Results

8.5.1 Demographics

39 people answered the initial questionnaire, of whom 27 also answered the PRP and received their written feedback report. All of those were then offered coaching. 10 chose to participate in coaching, all of whom provided initial verbal feedback during the Zoom session. 9 of those coached and 9 of those who were not coached completed the final Qualtrics feedback survey.

One Group 1 (non-coached) participant (P10) answered every evaluation question as neutral, with no comments other than "none", "n/a", "*somewhere in the middle*" and "*not that engaged*". Each of the remaining participants seemed more engaged in the study, with a variety of ratings and multiple explanatory comments for their answers. Responses from P10 were removed from the analysis due to the demonstrated lack of engagement in the study.

Of the 8 remaining participants in Group 1 (not coached), 7 were female. Ages ranged from 21 to 60. All were white. 3 were non-managers. 7 were based in Europe and 1 in Oceania.

For Group 2 (coached), 7 of the 10 were female. Ages ranged from 21 to over 61. Again, all were white. 4 were non-managers. 8 were based in the UK and 2 in the USA.

8.5.2 Level 1: Reaction to the Intervention

Coached participants were asked the reaction questions post-coaching, while non-coached participants were asked these questions in the final survey. (Appendix T). Across both groups the reaction to the intervention was very positive, with only a couple of neutral scores and comments.

All participants were initially asked the question: “How would you describe your experience of answering the questionnaires?”. Responses were brief, and participants across both groups were strongly positive about the ease of the process. They mentioned that it was easy or straightforward. For example, “*Really useful. Easy to understand*” (P11); “*Very straightforward*” (C10); “*it was all like quite self-explanatory*” (C3).

Several people commented that answering the questions was interesting and prompted curiosity or reflection, e.g., “*It was interesting to answer them, as it made me reflect on my experiences at work and in my personal life*” (P5); “*The questionnaires were interesting and prompted a lot of introspection around my attitudes and experience of work.*” (P6); and “*Filling it out was intriguing, and I was curious to see what, how, what it would come up with.*” (C9). A couple of people were neutral: C2 said “*It was ok [...] I felt I needed to read the questions carefully*” and C7 said “*I've done lots of Myers Briggs and Enneagram and various personality profiling things over the years. So they didn't stand out particularly I'm afraid*”.

Participants were then asked to answer a variety of questions on a 1-5 scale from negative to positive, with optional comments to explain their responses. The quantitative responses are summarised in Table 25 below, with explanatory comments underneath.

Table 25: Summary of Reaction Level Quantitative Responses

		N		Mean	Median	Mode	Min	Max
		Valid	Missing					
How helpful did you find the PRP report?	Group 1	8	0	4.13	4	4 ^a	3	5
	Group 2	10	0	4.20	4	4	4	5
How much did the questionnaires and PRP report help you reflect about your experience of resilience, wellbeing and thriving?	Group 1	8	0	4.25	4	4	4	5
	Group 2	9	1	4.33	5	5	3	5
How likely would you be to recommend completing the PRP for development to someone else?	Group 1	8	0	4.38	4	4	4	5
	Group 2	10	0	4.80	5	5	3	5
How much did the coaching help you reflect about your experience of resilience, wellbeing and thriving?	Group 2	9	1	4.72	5	5	4	5
How likely would you be to recommend 1:1 coaching for development to someone else?	Group 2	9	1	5.00	5	5	5	5

^a. Multiple modes exist. The smallest value is shown

Scores for the questions answered by both groups were subjected to independent samples t-tests to see if the differences were statistically significant. While the mean ratings for each question was slightly higher for those coached (group 2), the differences were not statistically significant for any of the questions. The effect size was very small for the first two questions (partial eta-squared < .01) but moderate to large for the question recommending the PRP to someone else (partial eta-squared =0.28) (Cohen, 1998 quoted in Pallant, 2016). (See Table 26 below for details).

Table 26: Independent Samples T-Tests Comparing Reaction Ratings Between Groups

	Group 2 - Coached			Group 1 - Not Coached			Mean Diff.	95% CI of diff.		df	t	Two-Sided p	Eta sq.
	n	Mean	SD	n	Mean	SD		Lower	Upper				
How helpful did you find the PRP report?	10	4.20	0.59	8	4.13	0.83	0.08	-0.63	0.78	16	0.22	0.83	0.00
How much did the questionnaires and PRP report help you reflect about your experience of resilience, wellbeing and thriving?	9	4.33	0.83	8	4.25	0.46	0.08	-0.61	0.78	15	0.26	0.80	0.01
How likely would you be to recommend completing the PRP for development to someone else?	10	4.80	0.63	8	4.38	0.52	0.43	-0.16	1.01	16	1.53	0.15	0.13

The comments relating to each question were then examined to give more context to the scores. Participants across both groups rated the PRP report as helpful or very helpful, with comments such as “*We often don’t stop and reflect. In both doing the questionnaire and*

reviewing the report it made me take time to reflect on where I'm at" (P10) and *"I liked the clear definitions. I love the illustrations, love the graphics. It was very insightful."* (C5) and *"It was really interesting to see and to have the breakdown of the different areas in the PRP but also how they are interlinked."* (P5). Two participants who were not coached rated it neutral with one comment: *"It was interesting"* (P9). One coached participant gave a rating between neutral and helpful saying *"...I probably need to read it properly and see, see what it's actually saying to me."* (C7). The other coached participant who rated it neutral commented that *"this coupled with the coaching is a 5"* (C2), suggesting that they had found the report more helpful once they had discussed it during the coaching.

All participants who were not coached rated the questionnaires and PRP report as helping them or helping them a great deal to reflect about their experience of resilience, wellbeing and thriving. All except three of the coached participants were also positive, the others neutral. Two of the coached participants who rated it neutral again mentioned getting more value through talking about the PRP report, rather than just reading it. E.g., *"I found the report was quite long, so reading through it felt quite a bit of a challenge and I didn't really set enough time probably to think through my own perspective. ... chatting about it is a lot easier for me to reflect whereas reading something I find a bit harder"* (C4); *"reading about it is really helpful, but discussing it is much more helpful"* (C2). This indicates that the coached participants felt that the PRP on its own was less helpful than the PRP report coupled with coaching.

All except one participant across both groups would definitely or probably recommend completing the PRP for development to someone else. Comments were uniformly positive, including: *"I think it's helpful. It's not too like intense either ... it's quite a nice, like, way into discussion"* (C3), *"I have recommended it to other people"* (C8), and *"definitely for anybody who's who's self reflective and self aware and wants to find out more about what really makes them tick. It's very helpful."* (C9). Participant C7 again rated this "Maybe", commenting *"I think I've done other things sort of, especially in conflict resolution courses, which I thought were better"*.

The researcher observed that none of the coached participants had looked at their PRP report more than once before their coaching session, and some had not read it in detail at all. Three had to have the report resent to them at the beginning of the coaching session as they could not remember where they had filed it. This suggests that although all participants said they found the report interesting and helpful, they might not have remembered its contents without the coaching session or a reminder from the researcher to fill out the final survey.

Responses to the coaching specific questions suggested Group 2 participants were very positive about it – they were unanimous about saying they would definitely recommend coaching for development to someone else, most said that it had helped them to reflect a great deal (top score of 5) about their experience of resilience, wellbeing and thriving. Comments included: *“it's been interesting during our discussion to reflect on actually maybe not in such a bad place on XY and Z, but in other areas you doing a really good job”* (C1), *“it's being able to discuss that with someone who is so knowledgeable in the context of the, the individual situation that that makes it, that allows you to turn it from theory into practice”* (C2); *“Very helpful. Yeah, particularly, I mean for, for anyone who's in a situation where, where, trying to figure out what can I do, what can I bring and, and how to grow?”* (C9).

Coached participants continued to emphasise the added value of coaching over just receiving the PRP report *“it would have been easy to forget about the report otherwise”* (C5); *“I would recommend like definitely having the session alongside, I think that's the real benefit as well. Once you have your results, to be able to explore them, it's really useful”* (C3). In addition, two of the three participants who said coaching was helpful (rather than very helpful) wanted more sessions e.g., *“I think for it to be a five, it would need to be more than one session ... because I think there's a limit to what you can do in one session.”* (C7). This confirms the observation above that one of the benefits of the coaching was to remind participants of their PRP results and discuss what those might mean to them in detail.

Group 2 underlined their positive reaction to the coaching in their responses to the question *“How would you describe your experience of having coaching to help you build thriving at work?”*. Participants highlighted that the coaching was positive and empowering, and that they valued the interactive, open conversation, and the good rapport that developed with the coach. For example, C1 said *“I was pleasantly surprised actually, by how, how positive an interaction it was with a complete stranger”*; C10 commented *“I felt listened to and understood. It helped me feel more proud to be me”*; C1 stated *“My interaction with [researcher] was fascinating. I found her insights very valuable”*; and C2 mentioned *“...a fantastic capacity to really listen and reflect back with some gentle encouragement where required”*. They also commented that the coaching content was interesting (see next section), and that coaching helped them to identify specific actions (see section 8.5.4 below).

Pulling together the quantitative and qualitative data above, the reaction to the intervention was positive across all participants. Both coached and non-coached participants valued the opportunity to stop and reflect offered by the intervention and would recommend the

PRP report for development. However, there is some question over how far the participants who did not receive coaching made use of the PRP report, given that none of those coached had looked at the report more than once before the coaching session. While there was no statistically significant difference in the ratings from the two groups, the qualitative analysis suggested that the Group 2 participants felt that the coaching had added a great deal of value, particularly around exploring the PRP report for their situation, the open conversation and the focus on actions, and all would definitely recommend the coaching to others.

8.5.3 Level 2: Learning From the Intervention

The learning questions were asked verbally of coaching participants immediately post-coaching as well as of all participants in the final questionnaire. Most of the learning questions were qualitative, with one quantitative question. All participants were asked to summarise what they had learned about thriving at work, what they had found most interesting and/or useful about participating in the study, and whether the study had prompted more self-awareness. Coaching participants were also asked what they had learned about prioritising relationships with others and being more authentic at work, and what they had found most helpful about the coaching session.

In summarising their learning about thriving at work, participants in both groups felt clearer about what thriving at work meant to them, and also its relationship to resilience. However, there were differences in the content mentioned by the two groups. Non-coached participants identified multiple different factors highlighted in the PRP report. Coached participants not surprisingly focused on the importance of relationships with others, community and being authentic. In addition, several mentioned the importance of the environment in supporting their thriving and the need to be active in making thriving happen. See Table 27 below for examples of the differences in responses between groups.

Table 27: Learning Quotes From Participants by Group – Summary of Learning About Thriving at Work

Response type	Quotes from Group 1 (non-coached)	Quotes from Group 2 (coached)
Resilience and thriving – multiple factors	<i>“I learned that there are many different levels of resilience and thriving which I never really considered before. (P6);</i>	<i>“A much clearer or ... from a point of non-existing to a point of clear understanding of a lot of the elements that underpin the ultimate thriving at work” (C6); “The study prompted me take a look at what thriving means for me and was helpful in breaking it down into elements that I could consider individually.”</i>

Response type	Quotes from Group 1 (non-coached)	Quotes from Group 2 (coached)
		(C2); <i>“I’ve certainly learned about the pillars and being able to identify some of the key aspects of resilience and thriving”</i> (C4)
Content specifics mentioned	<i>“really important to understand where u [sic] are and how much work can impact your general life”</i> (P1); <i>“I need to work more on my control aspects”</i> (P2); and <i>“Important to have purpose and meaning and belief in what I do”</i> (P7).	<i>“The importance of connecting with others on a regular basis and feeling a genuine support network”</i> (C3); <i>“having a clear purpose in how I collaborate with others”</i> (C9); <i>“if you can bring your authentic self, you’re not putting on and you know blocking any of your natural talent [...] and then having community - we know relatedness, relationships are everything”</i> (C5); <i>“it’s becoming really apparent to me that to thrive at work, you need to be authentic or feel that you’re in a genuinely supportive environment”</i> (C1); <i>“need to continue to create the right conditions at work to thrive there – the right culture”</i> (C10). <i>“I’ve learnt that I need to actively think about how I can improve my time at work”</i> (C4);

When asked what was most interesting or useful about their study participation, again there were differences between the two groups. Non-coached participants focused on the value of the content of the PRP report and the opportunity to reflect. Coached participants also mentioned the value of reflection but focused more on the value of the coaching session to them in identifying specific actions to take to improve their thriving at work. See Table 28 below for examples of the differences in responses between groups.

Table 28: Learning Responses by Group - Most Interesting or Useful

Response type	Quotes from Group 1 (non-coached)	Quotes from Group 2 (coached)
Value of study	<i>“It was interesting to explore the 7 pillars of positive resilience in more detail”</i> (P2); <i>“It was really interesting to have the PRP and to reflect on what actions I could take to improve resilience”</i> (P5);	<i>“Although the feedback was helpful, it was the coaching session that provided the opportunity to understand what it really meant and to develop some specific actions to try to improve my overall resilience”</i> (C2); <i>“Being provided with a framework and some coaching to really help solidify a basic understanding of what goes into thriving in</i>

Response type	Quotes from Group 1 (non-coached)	Quotes from Group 2 (coached)
		<i>the workplace and actions that can be taken to target each of these areas specifically” (C6); “</i>
Opportunity to reflect	<i>“just the review, pause and reflect” (P11); “It was useful for me to take some time out and think differently moving forward” (P9); “This has been a really useful exercise to show the importance of taking time to reflect” (P11); “Time to reflect on what matters” (P7).</i>	<i>Having a chance to reflect on what actions I could take to help improve my experience at work and help me thrive.” (C3); “It's strengthened my self-reflection process moving forward” (C6); “Reflecting on how what I am doing is an expression of who I am.” (C9).</i>

When asked specifically about what was helpful about the coaching session, Group 2 participants mentioned that the coaching helped them to set the PRP report findings in context and to identify practical actions. Many also commented on the helpfulness of the open conversation, and the benefit of the coach asking questions. Several also mentioned that they had had specific insights as a result of coaching that changed the way they saw themselves and/or their situations. See Table 29 below.

Table 29: Group 2 – What They Found Helpful About Coaching

Response type	Example quotes from Group 2
Set PRP report in context	<i>“that clarity of information around the different pillars and contextualising those in in real life examples and therefore enabling you to set some goals and actually achieve those” (C6); “the open conversation to have a reflect on my particular questionnaire, but also I suppose resilience and thriving more in general.” (C8);</i>
Identify practical actions	<i>“hearing the research. But then also, like just having specific actions that are like things you can actually easily or not easily do, but like realistic things you can do” (C3); “the practical responses that emerged” (C7); “I found it helpful to think of tasks/goals to do to help me thrive in the workplace - these helped me to feel motivated to go into the workplace and to keep working towards my future goals” (C4).</i>
The open coaching conversation	<i>“the space to talk and to listen without judgement or agenda” (C10); “Mainly talking things through” (C7); “the guided questions which would help me think things [through]” (C4)</i>

Response type	Example quotes from Group 2
Specific insights	<p><i>“The prevailing feeling that I should accentuate my positives and embrace being me, rather than keep trying to improve all the negatives.”</i> (C10); <i>“...notion of looking at it [the situation] as an opportunity to thrive, not something that needed to be survived through”</i> (C2);</p> <p><i>“...awareness that I am an active participant in my own development, and I can ask for help rather than just expecting to help myself was revelatory”</i> (C1).</p>

Coached participants were specifically asked what they had learned both about prioritising relationships with others and being more authentic at work. They also mentioned these topics when answering other questions – those responses have been included in the results below. They identified a variety of aspects of each factor that had struck them based on the coaching conversations, both the importance of each factor and the implications for themselves. See examples in Table 30 below.

When discussing what they had learned about prioritising relationships with others at work, participants talked about specific insights relevant to their situation, as well as their learning about its importance to thriving at work.

When responding about what they had learned about authenticity at work, participants also related their learnings to their specific situations. Several also observed that the context strongly influenced their ability to be authentic at work. In addition, several participants highlighted a link between authenticity and relationships with others, saying that being authentic generally resulted in deeper and more positive relationships.

Table 30: Group 2 - Specific Learning About Prioritising Relationships With Others and Authenticity at Work

Learning Focus	Response type	Example quotes from Group 2
Prioritising relationships with others at work	General importance	<p><i>“[prioritising relationships with others] can be the key to transitioning from being satisfied and effective at work to truly thriving”</i> (C3); <i>“to be able to thrive at work, you need to prioritise specific relationships um and yeah, invest time in those relationships as well”</i> (C4); and <i>“I think I have long made relationships at work a priority, but the study has helped me to see that this is one of the things that contributes to my thriving.”</i> (C7).</p>
	Specific insights	<p><i>“right now we're in a super busy cycle, so remembering to prioritise the people and the relationships before the work, so that the work can be done. It was a, it's a very powerful reminder”</i> (C5); <i>“I've learned that for me as a</i></p>

Learning Focus	Response type	Example quotes from Group 2
Being more authentic at work	General importance	<i>person, to be more, more satisfied and more authentic, more, feel more sense of purpose, it's really important for me to prioritise those, those relationships one to one with people at work” (C1); “This is much more important than I'd realised before - in that I can leverage my relationships to help me thrive (i.e., they work for me, not only for the other parties)” (C10); “The deeper my connections at work, the better I feel about myself and others” (C9).</i>
	Specific insights	<i>“[being authentic at work] is my superpower and everything flows more naturally and easily when I am in this state” (C10); “I've learned the importance of [...] not only me being authentic, but me reaching out and checking in on how comfortable the individuals in our team [...] are feeling about being authentic at work” (C5);</i>
	Importance of context	<i>“...provided the, I suppose, the culture and the environment is such that it allows you to be authentic” (C8); [being authentic at work] “is very dependent on, like, the context and who you're around” (C3); “[being authentic at work] “is really important for me as a person to, to thrive as an individual. But I've also learned that it's probably - I'm not in a in a great environment to do that” (C1); “I am lucky to work in environments that expect authenticity from me.” (C7).</i>
	Link between authenticity and relationships with others	<i>“in being more authentic, you build better relationships with people” (C1); “The more open I am about myself, the deeper my connections - with myself and with others” (C9); “If you constantly feel you have to be presenting a strong front, then I think it limits your enjoyment, your success, and your ability to, to use, to enjoy relationships” (C14); and “thinking about what you can bring to every conversation - i.e. based on your knowledge and experience and by thinking about what you would like to gain from others’ expertise - can help you show up more effectively.” (C3).</i>

Finally, all participants were asked about how far their study participation had helped them to develop more self-awareness. Quantitative responses are summarised below in Table 31, followed by an analysis of the optional comments.

Table 31: Summary of Learning Quantitative Responses

		N		Mean	Median	Mode	Min	Max
		Valid	Missing					
How far do you agree with the following statement "I have developed more self-awareness as a result of participating in this study"?	Post-Coaching Group 2	10	8	4.45	5	5	3	5
	Final Group 1	8	0	4.13	4	4	3	5
	Final Group 2	9	1	3.78	4	4	1*	5
	Adjusted Final Group 2	8	2	4.13	4	4	4	5

*. The minimum score of 1 for this question is likely to have been an error by the participant because the accompanying comment was very positive. This score was removed, and the statistics recalculated - shown in the bottom line of the table (Adjusted Final Group 2).

As the mean ratings for the two groups in the final questionnaires were identical once the scores for Group 2 were adjusted due to the potential mistake in scoring by one participant, t-tests were not performed to compare the means.

Immediately after the coaching session, all the Group 2 participants except one agreed or agreed strongly that they had developed more self-awareness as a result of participating in the study. Comments included “*I have understood that showing up as ‘less’ doesn’t serve me*” (C10), and “*It’s highlighted areas to look at*” (C6). While C7 was neutral, they commented “*I don’t really think I’ve developed a lot more self-awareness if I’m honest ... but that is very much to be interpreted as that’s because I came in with a really healthy set sense of self-awareness*”.

In the final survey, all except one of the participants across both groups agreed or agreed strongly (after adjustment) that they had developed more self-awareness as a result of the study, with comments like “*I think it has made me reflect more on my personal resilience that I would have done*” (P5), and “*Participating in the study prompted me to self-reflect and take stock of my feelings on how I am thriving at work.*” (C8). Again, while P7 was neutral, they suggested that this was because they were already self-aware: “*I think I was already self-aware but helpful to give structure*”. Interestingly, by the time they took the final survey C7 had become a little more positive and agreed that participating in the study had helped them develop self-awareness, commenting “*I was already pretty self-aware; this added in a useful way to an existing picture.*”. While there was no difference in the mean scores for the two groups in the final survey, the variety and insights in the qualitative responses from Group 2 across all the questions suggested that the coaching had deepened their self-reflection over and above what they had gained from just looking at the PRP report.

Reviewing both the qualitative and quantitative responses, participants in both groups felt that they had learned a lot from participating in the study, both in terms of content and also in

self-awareness. Coached participants were able to articulate specific insights about what they had learned appropriate to their situations, in addition to finding benefit in the coaching conversation. They also felt that the coaching had helped them to identify specific actions they could take to make a difference to their thriving at work (see next section).

8.5.4 Level 3: Behaviour Changes From the Intervention

Two quantitative and two qualitative questions were asked about participants’ evaluation of behaviour changes due to the intervention. Behaviour questions were asked of Group 2 verbally immediately post-coaching, and of all participants in the final survey.

Reviewing the responses resulted in one overall observation relating to behaviour: **participants mostly planned actions around wellbeing or relationships with others.** While participants across both groups mentioned many specific actions they planned or had taken, these could be grouped into a small number of categories (See Table 32 below). Participants obviously found it easier or more important to identify specific actions they could take to prioritise relationships with others or build their wellbeing than to find ways to be more authentic at work.

Table 32: Participant Actions Categorised

Action Focus	No. of comments	Examples of comments
Wellbeing (including exercise, food, sleep, meditation, time to reflect and relax)	30	“well-being - some healthy eating, getting back on with my fitness and also heavily prioritising sleep much more than I was before” (C6); “Time to pause and reflect where I’m being a busy fool [...] and being strict on carving out downtime where I do what I need to for relaxation.” (P11); “I am meditating for 20 minutes every day” (C10); “three positive things reflection” (C8).
Building or prioritising relationships with others	28	“consciously/intentionally carving time to spend ‘connecting’ with friends, family - and looking for new connections” (C9); and “I’ve written down some specific actions that I’m gonna take with my team” (C5).
Personal development (mostly action points from the PRP report)	8	“I have thought about how I can bounce back better, which has included [...] trying not to let one setback impact me so much” (P5); “I have made an effort to refrain from making quick decisions or over thinking situations” (P9); “focus on my strengths” (C1).
Being more authentic at work	5	“Speaking out at work more when I disagree with something, and trying not to let one setback impact me so much” (P5); “be more open about the challenges I face with the people I’m close to at work” (C10); and “focus on being authentic” (C1).

Action Focus	No. of comments	Examples of comments
Other (including changing job/role and getting specific help)	5	<p><i>“I changed jobs!”</i> (P7); <i>“I have moved to a different project area within the business and am starting to look for different work externally”</i> (C6); <i>“I sought an ADHD diagnosis”</i> (P2).</p>

The main topics mentioned by participants in both groups when asked what would prevent or had prevented action were being busy, forgetting, or being too comfortable: *“Just making sure I have time”* (P1); *“The amount that’s happening at work”* (P11); *“Busy job/life can sometime [sic] take over”* (P9); *“Lack of time”* (P8); *“I can recall some of what we discussed”* (C10); *“allowing the work and learnings to fade into the background”* (C6); *“I feel like it may be difficult to implement some of these changes when I feel quite comfortable in my day to day work life.”* (P6); and *“Procrastination or de-prioritising the action items”* (C8).

To overcome these issues, participants mostly focused on scheduling or writing actions down and involving others. For example *“writing down who I’m going to make an effort to connect with and what I’m going to do”* (C3); *“when it’s written on my To Do List it typically gets done”* (C5); *“Lists, reminders, calendar apps, reflection, all of the above help to reinforce”* (C6); *“scheduling a few days ahead”* (C10); *“I will rely on my joint planning and sharing of objectives and motivation with my colleague”* (C2); *“I know [researcher] will be coming back in 4 weeks with these questions again!”* (C10); and *“I’m taking steps to prioritise and delegate”* (P11);

Participants in Group 2 (coached) said they were more likely to take action than those in Group 1, and they also were clearer about the actions that would help increase their thriving at work. This was indicated both in their quantitative ratings and their qualitative comments describing what they were going to do or had already done. (see Table 33, Table 34, and discussion of comments below).

Independent samples t-tests were conducted to compare the final mean scores between groups (see Table 34 below), and there were statistically significant differences between groups for both questions, with a large and moderate-large effect size (partial eta-squared = .20 and .18 respectively). (Cohen 1988, quoted in Pallant, 2016).

Table 33: Summary of Behaviour Quantitative Responses

		N		Mean	Median	Mode	Min	Max
		Valid	Missing					
How likely are you to take action as a result of your participation in the study?	Post-Coaching Group 2	10	8	4.80	5	5	4	5
	Final Group 1	8	0	4.13	4	4	3	5
	Final Group 2	9	1	4.67	5	5	4	5
How far do you agree with the following statement "I am clear about what actions will help me increase my thriving at work"?	Post-Coaching Group 2	10	8	4.70	5	5	4	5
	Final Group 1	8	0	3.63	4	4	2	5
	Final Group 2	9	1	4.22	4	5	3	5

Table 34: Independent T-Tests Comparing Behaviour Responses Across Groups

	Group 2 - Coached			Group 1 - Not Coached			Mean Diff.	95% CI of diff.	df	t	Two-Sided p	Eta sq.	
	n	Mean	SD	n	Mean	SD							
	How likely are you to take action as a result of your participation in the study? How far do you agree with the following statement "I am clear about what actions will help me increase my thriving at work"?	9	4.67	0.59	8	4.13	0.64	0.08	-0.05	1.13	15	1.96	0.04
	9	4.22	0.83	8	3.63	0.92	0.43	-0.31	1.50	15	1.41	0.09	0.12

Comments on these two questions illuminate the lower mean scores for Group 1. For example, P6 gave a neutral response to the likelihood of taking action and disagreed that they were clear about actions to help increase thriving at work, commenting “*I would not be sure what sorts of actions or changes to make*”. Only two comments from Group 1 mentioned specific actions being taken “*I changed jobs!*” (P7), “*I sought an ADHD diagnosis*” (P2). Most of the other comments were rather generic, with participants saying they planned to do more thinking or reflecting: “*I have thought about how I can bounce back better*” (P5), “*I’ll be reflecting a lot more on what do I want to achieve out of a certain role*” (P8), “*Take time to reflect more often*” (P9).

In contrast, many of the comments from Group 2 mentioned specific actions, and also suggested they had already taken action by the time of the final survey, even though the mean score dropped slightly from the post-coaching session to the final survey: “*I have guarded myself from those who have taken advantage of my authenticity*” (C1); “*I have had some conversations with people at work about a particular aspect that was concerning me*” (C7); “*I have had more*

conversations with colleagues just to check up and see how they are doing” (C4) “I’ve already started!” (C10, immediately after coaching) and “I’m sticking to something that is working - albeit in a small way” (C10 in final survey), “I have done one of my tasks and am on goal to complete my other task” (C4) and “I have already taken several steps to improve both my mental and physical health in the short term, whilst also laying out a plan of action on how to bring up some of the lower scores from the report” (C6).

Pulling all this together suggests that while participants in both groups intended to actively make changes, particularly in the areas of wellbeing and prioritising relationships with others, the coached group were clearer about specific actions they could take and either took action or felt they were more likely to take action as a result of the study.

8.5.5 Level 4: Results of the Intervention

The results of the intervention were measured in two different ways: quantitative analysis of the participants’ scores on the ONS wellbeing questions and the Thriving at Work scale before and after the intervention, and reflexive thematic analysis (Braun & Clarke, 2006, 2021b) of the qualitative responses in the final surveys. Two questions were asked of all participants specifically regarding the results of the intervention: what changes they had noticed about their thriving at work, and what changes others had noticed. Coached participants were also asked what they had noticed about their relationships at work and their ability to be more authentic at work. The resulting themes are discussed after the quantitative analysis below. Finally, the information from the quantitative and qualitative findings are compared and final findings articulated.

Firstly, data from the Thriving at Work scale and the ONS wellbeing questions were examined for internal consistency and data normality.

Internal Consistency of Measures

The Cronbach alpha coefficient for the Thriving at Work scale was .95 in both the initial and final survey indicating excellent internal consistency at both times for this sample. This was a similar result as in all the previous studies in this research.

The Cronbach alpha coefficient for the ONS Wellbeing scale was .77 in the initial survey, indicating adequate internal consistency for the sample and .62 in the final survey, which is below the .7 cutoff usually considered acceptable for internal consistency (Pallant, 2016). However the small sample size is not really adequate for using Cronbach’s alpha to confirm

internal consistency for a measure in any case – 30 is often suggested as the minimum sample size (Bujang et al., 2018). The measure was retained to be consistent with the previous studies.

Data Normality

The small sample size means that data normality is hard to establish. However, the Investigating the data using descriptive statistics indicated that there were very few outliers and the 5% Trimmed mean was not very different from the mean for each measure, so outliers were retained (Pallant, 2016, p. 65; Tabachnick & Fidell, 2013, p. 77).

Table 35: Data Normality for Thriving at Work and ONS in Study 5

	N	Min	Max	Mean	SD	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Thriving at Work T1	18	2.27	7	5.17	1.33	-0.74	0.54	-0.19	1.04
Thriving at Work T2	17	2.91	7	5.64	1.04	-1.09	0.55	1.69	1.06
ONS Wellbeing T1	18	3	9.5	6.49	1.53	-0.11	0.54	0.64	1.04
ONS Wellbeing T2	17	5.5	9.25	6.96	1.12	0.65	0.55	-0.64	1.06

The Kolmogorov-Smirnov statistic significance was $>.05$ for all measures, indicating that the data could be considered normal.

Comparing Group 1 and Group 2 Scores Before the Intervention

The participants self-selected into Group 2 for coaching, so checks were needed to see if there was a noticeable difference in the initial scores on the ONS Wellbeing (ONS) and Thriving at Work (TAW) scales for the two groups. As the data was considered normal, an independent samples t-test was used to compare the initial Thriving at Work (TAW) and ONS Wellbeing (ONS) scores between groups. The mean difference was small, and there was no statistically significant difference in the mean score for either measure. The effect size of the difference in the means was very small (Eta-squared $\leq .05$ for both measures) (Cohen 1988, quoted in Pallant, 2016, p. 255) – see details in Table 36 below.

Table 36: Independent Sample T-Tests Comparing Initial Scores Between Groups at T1

	Group 1 - Not Coached			Group 2 - Coached			95% CI of diff.		df	t	Two-Sided p	Eta squared	
	n	Mean	SD	n	Mean	SD	Mean Diff.	Lower					Upper
ONS Wellbeing T1	8	6.84	1.39	10	6.20	1.64	0.64	-0.90	2.19	16	0.88	0.39	0.05
Thriving at Work T1	8	5.32	1.33	10	5.05	1.39	0.26	-1.11	1.63	16	0.41	0.69	0.01

Each of the quantitative hypotheses were then considered in turn.

H1: Thriving at Work Will Increase After Taking the PRP and Receiving the Report for Group 1 (Not Coached).

A paired t-test compared the mean scores for the participants in Group 1 at times T1 (the initial questionnaire) and T2 (the final questionnaire) for each measure (see Table 37 below). The results show little difference in the means scores between time 1 to time 2, the difference is not statistically significant, and the effect size is very small for ONS (partial eta squared < 0.01) although large for Thriving at Work (partial eta squared =.15) (Cohen 1988, as quoted in Pallant, 2016, p. 260). In summary, there is no evidence that just taking the PRP and receiving the associated report increases either thriving at work or wellbeing for the overall population.

Table 37: Paired T-Tests for Group 1 T1 to T2

	Time 1			Time 2			Mean diff	95% CI of diff.			t	One-Sided p	Eta squared
	n	Mean	SD	n	Mean	SD		Lower	Upper	df			
ONS Wellbeing	8	6.84	1.39	8	6.91	1.01	0.06	-0.58	0.70	7	0.23	0.41	0.01
Thriving at Work	8	5.32	1.33	8	5.69	0.81	0.38	-0.43	1.18	7	1.10	0.15	0.15

H2: Thriving at Work Will Increase After the Coaching Session for Group 2

A paired t-test was then used to compare the scores for the participants in Group 2 (who were coached) at times T1 and T2 for each measure (see Table 38 below). For these participants there was an increase in mean scores on both measures from T1 to T2 (see Table 38 below), and it was statistically significant. The partial eta squared statistics (.45 for ONS Wellbeing and .92 for Thriving at work) indicate very large effect sizes (Cohen 1988, quoted in Pallant, 2016, p. 260). Therefore, there is evidence to reject the null hypothesis associated with H₂ – that is, there is evidence to suggest that the semi-structured coaching after taking the PRP and getting the associated report had an impact on both thriving at work and wellbeing for the population.

Table 38: Paired T-Tests for Group 2 T1 to T2

	Time 1			Time 2			Mean diff	95% CI of diff.			t	One-Sided p	Eta squared
	n	Mean	SD	n	Mean	SD		Lower	Upper	df			
ONS Wellbeing	9	6.03	1.64	9	7.00	1.27	0.97	0.10	1.84	8	2.57	0.02	0.45
Thriving at Work	9	4.84	1.28	9	5.60	1.25	0.76	0.57	0.95	8	9.31	0.00	0.92

This is not to say that the intervention definitely caused the increase in scores – any number of factors may have contributed. The fact that those who were not coached did not have any improvement over the same time period does add to the likelihood that the coaching made a

difference. However, other events that may have occurred over the course of the study which were not measured but could have impacted the final scores.

H₃: There Will be a Greater Increase in Thriving at Work for Group 2 Than Group 1

This hypothesis was tested in two ways. Firstly, by noting that there was a statistically significant increase in both thriving at work and ONS wellbeing for Group 2 but not Group 1. Secondly, individual differences in scores were calculated for each participant for both measures (i.e., score at T2 less score at T1 for each participant) and then an independent samples t-test was used to compare the differences between groups.

Table 39: Independent Sample T-Tests for Differences in Scores between T1 and T2 for the two Groups

	<i>Group 2 - Coached</i>			<i>Group 1 - Not Coached</i>			Mean Diff.	95% CI of diff.			df	t	One-Sided p	Eta squared
	n	Mean	SD	n	Mean	SD		Lower	Upper					
ONS Wellbeing Difference	9	0.97	1.13	8	0.06	0.76	0.91	-0.11	1.92	15	1.91	0.04	0.20	
Thriving at Work Difference	9	0.76	0.24	8	0.38	0.97	0.38	-0.43	1.20	15	1.09	0.16	0.07	

The results, shown in Table 39 above, show a statistically significant difference between groups for ONS Wellbeing, but not for Thriving at Work. The eta-squared values show a large effect size for ONS Wellbeing and a moderate-large effect size for Thriving at Work.

While the difference in mean scores for Thriving at Work between groups are not statistically significant, the fact that there was a statistically significant difference for Group 2 while not for Group 1 does suggest that the coaching had some effect for Group 2. Participant numbers being so small may have contributed to the lack of statistical significance of the differences.

The qualitative data was then examined using Reflexive Thematic Analysis (Braun & Clarke, 2006, 2021b) to see if that would shed light on the quantitative results.

8.5.6 Reflexive Thematic Analysis of Qualitative Data Results

Three themes developed about the results of the intervention through reflexive thematic analysis of all the qualitative responses across all participants: (a) participants noticed more self-awareness and ability to be relaxed at work; (b) participants noticed more and different impacts

of the study than others reflected back to them and (c) participants felt that their work environment was the main thing that impacted their ability to thrive (or otherwise) at work.

Participants Noticed More Self-Awareness and Ability to be Relaxed at Work.

Participants across both groups felt that they were more self-aware, and able to be more relaxed when asked what they had noticed about their thriving at work in the final survey. E.g., *“I am more self aware of my work life and how I can improve my work experience”* (P5); *“not any particular changes in my actions or behavior, just a greater self awareness”* (P6); *“I think I’ve been more self aware as to how I’m feeling at work”* (P8); *“I’ve been more relaxed, particularly about scheduling”* (C10); *“Because I feel more able to be ‘me’, I am more relaxed and confident”* (C2).

Participants Noticed More and Different Impacts of the Study Than Others Reflected Back to Them.

Nearly half the participants across both groups felt that others had not noticed any changes in them since their participation in the study. For example, *“I’m not sure anyone else has noticed”* (P8) and *“I have not had any comments on this”* (C7). Several mentioned they had had comments about increased positive emotions and confidence: e.g., *“I have received a few comments about being happier and more relaxed”* (C2); *“people have commented that I am more confident generally”* (P5). Several Group 2 participants mentioned that others reacted differently to them which strengthened relationships as a result of actions they had taken during the study, e.g., *“They smile more”* (C9); *“I think people feel more comfortable engaging with me on things outside the work we are doing together. This has strengthened our relationships”* (C2).

However, across all the responses in the study participants mentioned multiple other areas of change they had noticed (See Table 40 below). In addition to the increased confidence and emotions and the improving relationships with others, they mentioned being more willing to take action, increased authenticity at work, having more awareness of thriving at work and resilience, and changes at work due to their actions. The majority of these changes were noticed by Group 2 (coached participants).

Overall, this suggested that participants thought there had been more impact of their participation in the study than others had noticed. However, some of this is likely to be related to trying to please the researcher (social desirability), while some could be because they did not notice or ask about any changes seen by others.

Table 40: Impacts of Study Noticed by Participants

Impact of study	No. of comments	Examples of comments
Willingness to take action	17	<i>“The coaching session acted as a bit of a catalyst. [...] I was ‘primed for action’, if that doesn’t sound too corny!” (C2); “I have been taking on more stretching opportunities and managing to meet them” (C3); “The study has helped highlight to keep doing what I am already doing” (C6).</i>
Positive emotions (e.g. gratitude, positivity, interest)	12	<i>“Better frame of mind. I’ve re-energised my morning priming routine which has helped me to focus on everything in a positive lens” (P11); “Inspired by your work, I love that you’re doing this” (C5). “Thank you for the opportunity to participate in the study. I have felt very lucky to do so and have benefited greatly” (C2);</i>
Increased authenticity at work	7	<i>“I believe I am more confident about being authentic” (C2); “I feel more confident to voice my opinion or ask others questions and seek their perspective” (C3). “I already had a self awareness around ensuring i am authentic at work and enhancing my work through being more authentic (and comfortable in bringing my own personality and unique traits to my work). The study has reinforced that.” (C8);</i>
Relationship changes	5	<i>[relationships] “feel more natural, easier” (C10); “I have been more actively aware of the importance of the relationship, not just the activity or work in hand” (C2); “They have overall improved or continued to strengthen.” (C3)</i>
More aware of resilience and thriving at work and associated factors	5	<i>“A much clearer [...] understanding of a lot of the elements that underpin the ultimate thriving at work. And that has then therefore provided a good framework to set goals that I can assume will be fairly confident will be likely to result in positive change.” (C6)</i>
Work changes	3	<i>“I changed jobs!” (P7); “I have had some good feedback from my manager and have been asked to work on some more extensive projects” (C3); “think it is a bit of a virtuous circle. Because I feel more able to be ‘me’, I am more relaxed and confident. I have been much more likely to do things outside my comfort zone and this has increased my confidence and opened up some opportunities. This all creates an environment in which I can thrive” (C2)</i>

Participants Felt That Their Work Environment was the Main Thing That Impacted Their Ability to Thrive (or Otherwise) at Work

Many comments were made about the impact of the work environment on their ability to thrive by participants in both groups. This included comments on two areas: the pace of work

life, and whether their environment supported or actively hindered their thriving. For example, many comments were made about the work environment being so busy it was difficult to make time to focus on thriving at work, as mentioned in the previous section: “... *too busy and overloaded with work*” (C3); “*I might not meet with my senior colleague due to my busy schedule and will find it hard to cut out time to meet with this person.*” (C4); “*I have such a busy life and therefore I do not tend to have the time to think about my journey and how I can develop*” (P9); “*Challenges with other priorities*” (C5); “*you can feel like you're on something of a treadmill*” (C8).

In Group 2, some participants mentioned specific aspects of their work environment that actively hindered their thriving “*I'm actually fairly in a fairly tough spot at the minute and I feel like I'm in, in a in a pretty low environment [...] My own profession (law) doesn't seem to respond well to authenticity at work*” (C1); “*a perception that you're expected to behave in a certain way because of a particular role that you're in or because you don't feel safe, then your work is less enjoyable. You're, you're less likely to grow, and you're actually less likely to be good at what you're doing, because you don't, you don't allow yourself those grey areas in those areas of, umm, admitting uncertainty and exploring marginal areas*” (C2).

Two participants who had identified problems with their environment had found a new job by the end of the study, one from each group e.g., “*I changed jobs!*” (P7); “*I have moved to a different project area within the business and am starting to look for different work externally in order to provide myself with a greater sense of purposefulness in the workplace*” (C6).

Some coached participants suggested that they could make changes in their environment to support their and others' thriving: “*I also need to continue to create the right conditions at work to thrive there – the right culture*” (C10); “*I am more confident about being authentic and this seems to have created an environment where my colleagues also feel able to show more of who they really are*” (C2); or that they noticed that their environment supported their thriving: “*confirmation that my work environment is a place where I am able to thrive*” (C7).

Kirkpatrick (1996) Results Level - Bringing the Quantitative and Qualitative Results Together

The quantitative results suggest that the coaching had a positive impact on both wellbeing and thriving at work for Group 2, but that just receiving the PRP report did not have any impact for Group 1. This is supported by the reflexive thematic analysis of the results, which suggests that coached participants noticed they were more likely to take action, experienced

more positive emotions and authenticity at work, had noticed changes in work relationships, were more aware of their thriving at work and had made some work changes compared to those who were not coached.

Both groups commented that they were more self-aware and relaxed at work, but this was not reflected in the Group 1 statistical analysis. The statistically significant difference in wellbeing for Group 2 may be connected to this.

The impact of the work environment on thriving at work may also have contributed to the improved thriving at work for Group 2. Even though two Group 2 participants were unhappy with their work environment, they indicated that as a result of the study they were actively looking for ways to improve their situation. Other Group 2 participants discussed how they could make changes to improve their own work environment, by taking actions to improve their thriving at work, or that they were more aware of how their environment supported their thriving at work.

8.6 Study 5 Discussion

The overall evaluation of the intervention was highly positive across all levels of the Kirkpatrick (1996) approach. Participants liked the intervention – they found it interesting, positive and thought-provoking. They had all learned new things about resilience and thriving at work through the PRP report and the coaching. Coached participants had learned about how resilience and thriving might be related, and in particular about the two factors discussed in coaching: prioritising relationships with others and being more authentic at work and how they might impact thriving at work. Participants had planned actions, but there was variation in how far they had actually taken action, which may be related to the fact that coaching participants seemed to have more depth and clearer understanding of actions that might support thriving at work. Both thriving at work and wellbeing increased for those coached, but not for those not coached, suggesting that just providing a static educational intervention (the PRP report) was not as effective for change as the coaching. This is in line with Vanhove et al. (2016)'s finding, that one-to-one interventions such as coaching had the most impact across the studies they reviewed.

The lack of impact of the education side of this intervention (the PRP report) on those not coached could be because it was not sufficiently personalised to the situation and the individual, which made it easy to ignore or forget. Several participants who were not coached commented that they didn't feel the report was personal enough, and/or that they had forgotten about it or its suggested actions. The researcher observed that three of the coached participants had lost their

report before the coaching session, and most of the others had not referred to it more than once until the coaching session. The importance of personalising the intervention to the individual and their situation is also emphasised in the literature on interventions for both resilience and thriving at work (Kleine et al., 2019; J. J. W. Liu et al., 2020; Southwick et al., 2014; Vanhove et al., 2016), and this was inherent in the coaching approach. The study results suggest that combining the education aspect with a more personalised and action-oriented approach like coaching might have more impact for most people.

Despite the small number of participants in this study, the effect sizes found in this study are in line with those achieved in other studies aimed at increasing resilience or thriving at work. (J. J. W. Liu et al., 2020; Vanhove et al., 2016).

The statistical significance of the within-participant comparison of thriving at work, and the lack of statistical significance in the between-participant comparison is in line with that found by Vanhove et al. (2016) in their meta-analysis of organisation resilience-building programmes. They showed that within-participant designs produced “stronger effects on health and performance scores” than between-participant designs. They also showed that comparisons with non-intervention control groups (arguably like this study) had stronger effects than those compared with active control groups. This suggests that future research based on this study should not only target a larger number of participants (to increase the statistical power of the study) but also develop an active control group for comparison purposes.

The actions most popular with participants – well-being related actions such as those related to physical activity, sleep, food etc. and prioritising relationships with others – are major parts of two of the three pathways identified by Porath et al. (2022) for individuals to increase or sustain their thriving at work. This suggests that (a) the increase seen in thriving at work in coached individuals could be due to them taking action in these areas and (b) that these types of action should be encouraged in future similar interventions, so long as they fit with the individual’s situation.

The study participants felt that their work environment was the strongest influence on their ability to thrive at work. This highlights the criticality of taking context into account when designing any intervention. Ciarrochi et al. (2016) point out the importance of ensuring that interventions are focused on context, suggesting that interventions should target two areas: creating a positive, supportive environment *and* teaching people skills to “respond effectively and flexibly to their environment” (p. 2). They also point out that at present there is little

research clarifying what aspects of an intervention are most effective. So, while this study is a starting point, much more research is needed into understanding how and why the intervention works.

8.6.1 Study 5 Limitations

By the pilot nature of the study, participant numbers were very small. Future research should aim to scale up the numbers to make it more likely that real-world, statistically significant results are obtained, illustrating the utility of coaching of this type for increasing thriving at work in a broader population.

The study compared an active intervention (coaching) with a static intervention (reading a report). An active alternative would be helpful in future research, to clarify not just if the intervention is effective, but also that basing it on the framework identified in this research (Figure 4 on page 119) is more effective than other approaches (Vanhove et al., 2016).

The study was too short to identify if there would be any lasting benefits from the intervention. It is possible that the increase in thriving at work was purely temporary. Kleine et al. (2019) mention that only three of the studies they included in their meta-analysis of thriving at work measured thriving at two points in time or more, and suggest that “researchers should conduct intervention studies and use longitudinal research designs” (p. 991).

Participants were self-selected, not just for the study but also for the coaching – so those who participated may not have been representative of the wider population. Vanhove et al. (2016) suggest that resilience at work interventions are more effective for those most at risk of stress. It is possible that people who chose to participate in coaching did so because they were feeling a particular need for support around thriving at work, and that influenced the results.

Results may not be valid for non-UK populations, or non-white UK populations, given the purely white and predominantly UK-based participants. Future research should consider not only a larger study with more diversity, but also identifying and comparing results for participants who feel under stress to those who do not, so that the effectiveness of the intervention can be compared across those two groups.

Again, all measures were self-report, and therefore may be subject to bias and social desirability impacting the responses, particularly the feedback given in person to the researcher immediately after the coaching session. This is in accordance with most studies on thriving at work, but can lead to biases and error (Kleine et al., 2019). It would have been particularly useful to include third party observations of behaviour change, and objective measurement of

results expected to increase with thriving at work (e.g., changes in performance), to clarify if the impact of the interventions identified by participants were objectively measurable and/or noticeable to others.

Finally, the lengths of time between filling in the initial surveys, then potentially receiving coaching, then and filling in the final survey varied significantly between participants – some had a gap of 3-4 months between different stages, others only about 6 weeks. This was partly due to scheduling difficulties for coaching participants and partly to participants not immediately answering surveys when requested. This difference in length of participation in the study adds a potentially unnecessary time variable to the study which results in greater uncertainty about what might have caused the results seen. Future studies should endeavour to ensure a more consistent study duration across all participants.

8.7 Summary

This was the final study in this programme of research. It illustrated the utility of the framework developed in this research (see Figure 4 on page 119) in designing interventions that would increase thriving at work. The next chapter discusses the impact of the whole programme of work, considering the results of all the individual studies, identifying potential avenues for further research, and potential applications for individuals and organisations in the real world.

Chapter 9

So What? Discussion, Implications, Applications and Reflections

The researcher's professional role as an executive and career coach and organisational consultant prompted this research programme as a way of distilling evidence for how thriving at work was related to resilience and considering how this might be used as the basis for beneficial interventions for both individuals and organisations. As described earlier (section 1.2), the researcher's aims were:

- to understand more about resilience and thriving at work, and if and how they were linked;
- to extend the research particularly around resilience at work to desk-based workers, an under-researched population heavily impacted by the COVID-19 pandemic, in which the researcher has a personal and professional interest; and
- to clarify how the research could be applied in practical ways to benefit both individuals and organisations.

This chapter addresses the above aims by focusing on the insights developed through this research across all the studies. The implications for research and potential applications in the real world are considered for each. The chapter concludes with personal reflections from the researcher followed by a personal conclusion.

In summary, the key insights from this research include:

- Both thriving and resilience at work provide benefits for organisations and employees, and can be developed.
- Thriving at work is more strongly related than resilience at work to four key work-related outcomes: work engagement, job satisfaction, career satisfaction and organisational commitment.
- Resilience and thriving at work are distinct constructs, related but not directly: the relationship is complex and involves many factors.
- Short interventions based on the framework from this research can increase thriving at work.

9.1 Both Thriving and Resilience at Work Provide Benefits for Organisations and Employees, and Can be Developed

The literature review described in Chapter 2 suggested that both resilience and thriving at work had beneficial outcomes for individuals and organisations. This was confirmed by the work described in Chapter 4 to collate factors of resilience and thriving at work from meta-analyses and structured reviews. Long lists of potential beneficial outcomes for each were identified. The factors identified as common to both (see Table 5 on page 64) are all highly desirable for both individuals and organisations, including work engagement, job and career satisfaction, organisational commitment, performance, wellbeing and physical health. These benefits translate into increased performance and reduced costs for organisations, and employees who are happier and healthier.

The literature review also suggested that both resilience and thriving at work changed, both over time and according to the situation, and could be developed. This was confirmed by the review of interventions documented in Chapter 8, which highlighted that many interventions to develop resilience and thriving at work had shown beneficial outcomes of multiple kinds.

However, the literature reviews across Chapters 2, 4 and 8 also highlighted that there is no one way that works for everyone in every situation to develop resilience or thriving at work. Measured impacts of the interventions can be quite small and have been shown to vary depending on many factors, such as people's background and needs, the context, and available resources. Organisational interventions (e.g., changes to job responsibilities, information sharing, developing a positive climate of respect) are needed to ensure thriving at work. Organisational interventions also support resilience at work.

9.1.1 Implications for Research

Many beneficial potential outcomes of both resilience and thriving at work have been identified via the meta-analyses and structured reviews mentioned above and in Chapter 4. However, much of the research is correlational, not causal, and very little is longitudinal (measures results at multiple points over a period of time), so how long the effects last are unknown.

Hundreds of studies have taken place researching interventions designed to increase resilience at work which also measure associated potential outcomes (J. J. W. Liu et al., 2020; Vanhove et al., 2016), and so have some ability to examine causes and effects. However, much more work is required to confirm which factors have empirical support as outcomes rather than

just correlates of resilience at work. Also, few studies measured outcomes at more than one point in time, so it is not clear how long the effects of the interventions lasted (J. J. W. Liu et al., 2020; Vanhove et al., 2016).

Far fewer intervention studies and almost no longitudinal studies exist for thriving at work, as highlighted by Kleine et al. in their meta-analysis (2019), so there is even less evidence as to whether thriving at work causes these outcomes, results from them, or if all the variables are actually related to some other currently unidentified factors.

This means that for both constructs, more intervention studies and longitudinal designs are needed to confirm that the proposed outcome variables result from resilience and/or thriving at work, and that the results are lasting in the real world.

9.1.2 Application in the Real World for Individuals and Organisations

Key messages for practitioners, organisations and their employees from this insight include:

1. Both thriving and resilience at work are valuable to organisations and individuals, and therefore worth focus and investment. Benefits include, but are not limited to, higher performance, stronger work engagement, increased commitment to the organisation and lower turnover intentions, increased positive organisational behaviour, higher career and job satisfaction, lower burnout and increased physical and mental health. Therefore, more resilient and thriving employees are likely to be healthier and happier, perform better and be more loyal to the organisation.
2. Developing resilience and thriving at work is complex: no one factor works for everyone in any situation. Instead, focus on specific desired outcomes, and consider the needs of and resources available to the people involved.
3. One-to-one or classroom-based interventions seem to have more impact than train-the-trainer or computer-based approaches.

Individuals who want to be healthier and happier at work should consider focusing on how to build either resilience or thriving at work, or both. They could do this by identifying possible actions that have been shown to increase resilience or thriving at work; considering their situation – what is possible, feasible, affordable etc; and then choosing an action to take. Working with a coach or going on classroom-based training may be more beneficial than taking internet-based courses with little or no personal interaction.

Organisational leaders who wish to increase their employees' health, wellness and performance, and increase loyalty should consider what organisational level changes they could make to foster resilience or thriving at work or both. This process would be similar to planning any organisational change programme, - just focused on supporting resilience and/or thriving at work. It would require assessing the situation: what they want to achieve, what stresses their employees are under, and what resources they have available. It would also involve assessing possible organisational interventions to consider which might have most impact on employees in that situation, perhaps changes to the organisation structure or culture (such as changing job roles to include more autonomy or increasing information sharing), or alternatively focusing on increasing employee resources (such as providing a resilience training programme or providing help and support for more physical activity at work). Then decisions would need to be made about the most effective approach to deliver the intervention to achieve their objectives – a cost-benefit analysis might be needed, along with consideration of other practical issues such as numbers of people, geographical locations, impact on operations etc.

Many interventions have been studied, so it would be beneficial for practitioners to review what has been shown to be effective in similar situations, so they have a library of possible options to consider when working with an organisation or individual.

9.2 Thriving at Work is More Strongly Related Than Resilience at Work to Four Key Work-Related Outcomes

Four of the common outcome factors found in Chapter 4: work engagement, job satisfaction, career satisfaction and organisational citizenship were shown to be more strongly correlated with thriving at work than resilience at work in the studies described in Chapter 5. If thriving at work was held constant, the relationship between resilience and thriving at work was very low or non-existent. This means that, all other variables being equal, people who are thriving at work – experiencing a sense of vitality and learning – are more likely to be experiencing work engagement, job satisfaction, career satisfaction and organisational citizenship than those who are resilient - have positively adapted to adversity - but are not thriving. This finding was so unexpected that the first study was repeated with a different set of participants and measures of resilience and thriving, and similar results obtained. The fact that similar results were obtained both times the study was conducted suggests that some degree of confidence can be placed in the results.

These studies were correlational, so could not detect which factor caused which. It is possible that higher levels of these outcomes actually result in thriving at work, rather than the other way around, or that all are results of some other as yet unidentified factors. As discussed in Chapter 5, these variables were selected to be measured because they had been identified as common outcomes in the existing literature, which would imply the direction of the relationship, but it is not proven by this study.

The results make sense from the point of view that we might expect those who are thriving at work to be happier with their job, career and organisation, and more engaged in their work than those who are just surviving at work.

The other three common outcome factors studied in Chapter 5: mental/psychological health, wellbeing did not show major differences in their relationships with resilience and thriving at work. Again, this is purely correlational research, so it does not prove the direction of the relationships.

As described in Chapter 2, resilience and thriving at work have both been shown to be highly complex constructs and very context dependent. This study did not attempt to control for any other factors that might have influenced either variable, so there may be unknown factors influencing these results.

9.2.1 Implications for Research

As mentioned in section 9.1.1, more research is needed to clarify the direction of the relationships between variables. For example, it is equally possible that thriving at work results in higher work engagement, higher work engagement leads to thriving, or both are related to some other, as yet unknown, factor. Also, other potential influencing factors need to be measured and controlled for in the research before stronger messages can be given around whether thriving at work is of more benefit than resilience at work for outcomes prized by individuals and organisations.

For example, it would be valuable to run similar correlation studies while controlling for other factors. The literatures for both resilience and thriving at work, along with the organisational literature covering the four key outcome factors studied, suggest many potential influencing factors which could be measured and controlled to support or challenge the results from this research.

It would be even more valuable to design a study showing causation rather than just correlation. This is difficult, not only because of other influencing factors, but also because of

the complexity and situational dependency of both resilience and thriving at work. Nevertheless, it would be worthwhile, if possible. It would be the only way to confirm if thriving at work actually drives these four key work outcomes, and also if it has more impact than resilience. This would particularly benefit organisations to focus their resources and attention on interventions that had the most desired impact.

The research in Chapter 5 only explored the impact of resilience and thriving at work on some of the outcomes that had been identified in the literature as common to both. As described in Chapter 4, many other factors have been identified as outcomes for one or the other but not both. Further research is needed to clarify if any of those factors are in fact also common outcomes for both constructs, and if and how the impacts differ.

9.2.2 Application in the Real World for Individuals and Organisations

Key messages for practitioners, organisations and their employees from this insight include:

4. Work engagement, job satisfaction, career satisfaction and organisational commitment have stronger relationships with thriving at work than resilience at work.
5. Resilience at work may not be enough to build employee health and wellbeing and the loyalty and productivity desired by organisations.
6. Employees may need to be thriving at work, not just resilient, to experience the maximum benefit for both them and their organisations.
7. Psychological/mental health, wellbeing and performance seem to have similar relationships with resilience and thriving at work.

The four key work constructs identified are highly valuable to organisations, associated as they are with lower costs due to lower turnover from higher job and career satisfaction and organisational commitment and stronger performance from higher work engagement. While correlation is not causation, this research suggests that focusing on developing thriving at work would be a worthwhile activity for organisations. Organisations looking to reduce turnover and increase productivity should be looking to help their employees thrive at work, not just survive. Just being resilient – even highly resilient – without thriving may not give the most benefit to either the organisation or its employees.

The same argument applies to individuals looking to increase those four key work outcomes. However, individuals more focused on increasing physical and mental health and

wellbeing could focus their efforts on building either thriving or resilience at work, or both, as both were shown in the study to have similar levels of impact.

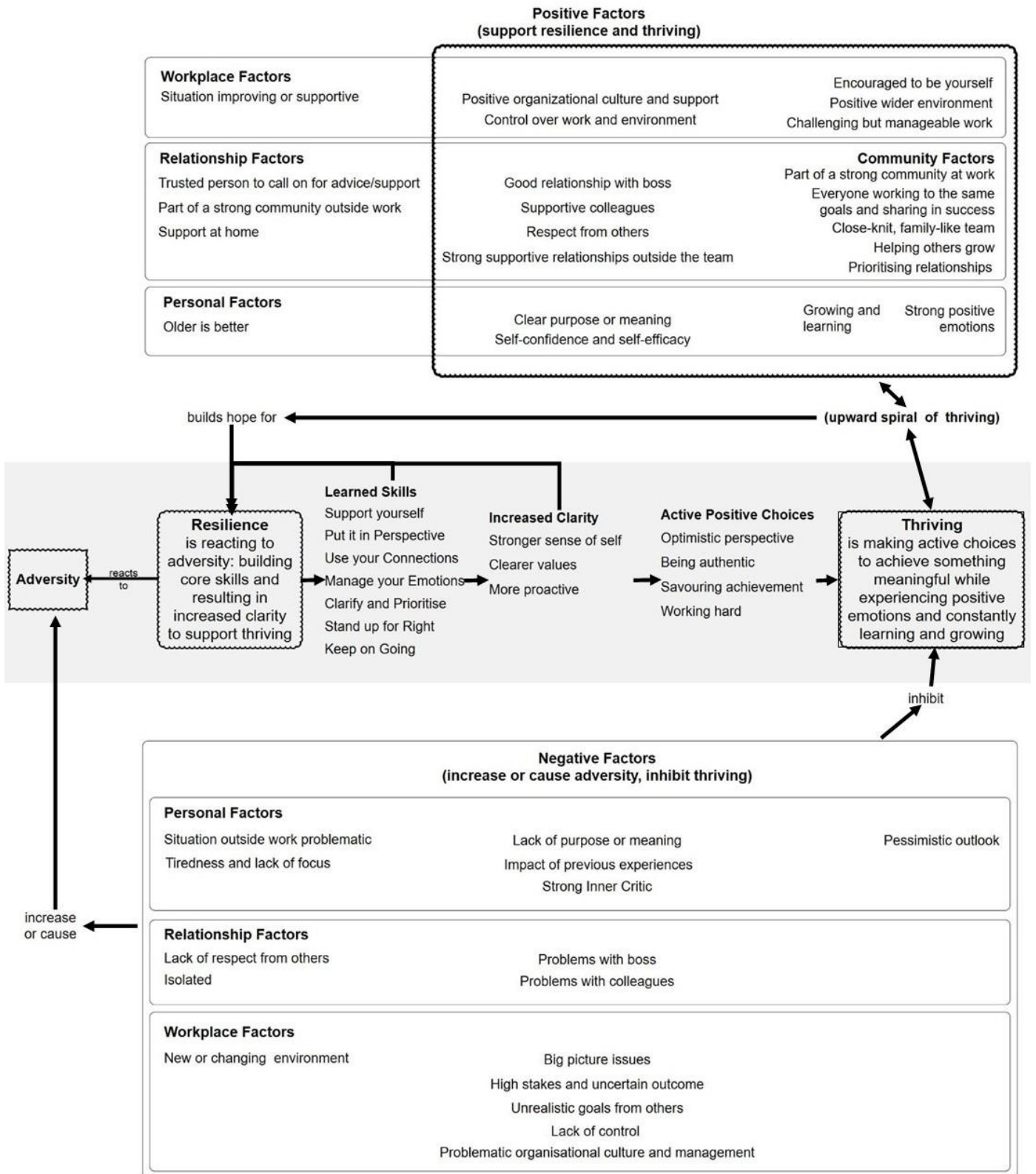
For practitioners, this research could be useful when choosing or advising on interventions, to concentrate attention on those with the potential to develop thriving at work in addition to or instead of resilience at work, as they may give greater benefits to both individuals and organisations.

9.3 Resilience and Thriving at Work are Distinct, Related but not Directly: The Relationship is Complex and Involves a Multitude of Factors

Much of this programme of research has focused on clarifying and illustrating the relationship between resilience and thriving at work. The literature review (Chapter 2) showed (a) that resilience and thriving at work were distinct but potentially related, (b) that resilience might be an antecedent or outcome of thriving at work, and (c) that a multitude of potentially common antecedent and outcome factors have been identified for both constructs. Study 1 illustrated that there was a moderate correlation between the two constructs, adding to the evidence that they were distinct but possibly related in some way. Further review of the literature identified currently researched common antecedents and outcomes (Chapter 4). Study 2 (and the replication Study 2b) explored how resilience and thriving at work might be related differently to the common outcomes identified in that review (Chapter 5). Study 3 (Chapter 6) built on this foundation via a qualitative design and provided evidence for the details of the relationship and how it might work, which resulted in a framework diagram illustrating that relationship, including other involved factors (Figure 2 on page 103). The fourth study (Chapter 7) explored one aspect of the proposed relationship in more detail to start confirming the framework (Figure 4 on page 119). Study 5 (Chapter 8) illustrated the use of this framework in designing an intervention intended to increase thriving at work.

Study 1, Study 2, Study 2b, and Study 4 all showed a similar moderate correlation ($r=.37$ to $.42$) between resilience and thriving at work. The assumption made after the literature review (Chapter 2), that resilience and thriving at work are distinct but related, was therefore confirmed across four different samples taken over a period of three years.

Figure 5: Final Illustrative Framework of the Relationship Between Resilience and Thriving at Work for Desk-Based Workers (copy of Figure 4)



The final framework from this research, illustrating how resilience and thriving at work are related for desk-based workers (Figure 4 on page 119 and reproduced for ease of reference above in Figure 5) collates the information from the above studies into one pictorial representation. It illustrates how resources developed through resilience at work may then be available to support active positive choices to thrive at work, in a supportive environment; that thriving at work can spiral upwards under the right circumstances; and that thriving can also support resilience as knowledge of previous thriving may provide hope for the future. Positive and negative factors influencing the relationship, whether workplace, relationship or personal factors, are shown above and below the core relationship. This diagram is a clear, straightforward representation of the results of this research, and could provide a useful resource for organisations, employees and the practitioners who support them (see below).

While only a pilot study, the coaching intervention in Study 5 showed a statistically significant increase in thriving at work for those who were coached. This illustrates both that thriving at work can be impacted by interventions, and also that one-to-one interactions based on factors in the above framework may be effective even when working with individuals in different organisations and circumstances.

9.3.1 Implications for Research

While this research has proposed a framework for the relationship between resilience and thriving at work based on both the literature and the findings of the qualitative research study (Figure 5 above), it has hardly scratched the surface of exploring the relationship. Much more research is needed to explore different aspects of the framework and develop a deeper understanding of how resilience and thriving at work are related.

This research has illustrated the potential of the framework in Figure 5 to suggest topics for further research into potential mediators and moderators of the relationship. However, the considerable number of factors in the framework underlines the amount of future research to be carried out before the relationship between resilience and thriving at work is better, if not fully, understood. Clarifying and confirming the mediators and moderators of the relationship between resilience and thriving at work would be helpful to understand how and why some people thrive despite adversity and others do not. It would also be useful to understand if any of the many factors so far identified have stronger impact than others, to give opportunities for individuals and organisations to focus their development efforts into areas that would give the most potential benefits.

It is also important for this research to be repeated and expanded with different populations, including non-Western cultures and different occupational groups (not desk-based). The participants in the research were all from the UK, the US or Oceania and all were desk-based workers. Now this framework has been suggested, future research could clarify if it is applicable in other populations.

9.3.2 Application in the Real World for Individuals and Organisations

Messages from this research for practitioners, organisations and their employees include:

8. Thriving at work benefits from skills, characteristics and attitudes that can result from resilience, but does not necessarily require them – every situation is different.
9. Resilience at work sets individuals up for thriving at work (and more resilience) by developing useful skills, techniques and mindsets.
10. Thriving at work requires conscious positive choices by individuals within a supportive context and community.
11. Thriving at work does not just happen. It must be deliberately targeted and worked on by organisations, leaders and employees.
12. Many of the factors that support resilience at work also support thriving at work, so interventions that target those factors could have more impact.
13. Organisations and leaders need to focus on developing a positive, supportive culture and a sense of community for their employees if they want to reap the benefits of thriving at work.
14. Once an individual or community is thriving at work, there may be an upward spiral of thriving, as they influence the organisational culture and the community to increase everyone's thriving.
15. Thriving at work at one point in time may support resilience at a future time, by providing hope during an adversity that things can be better.

A wide variety of both individual and organisational interventions have been shown in the literature to support or develop resilience or thriving at work or both – summarised in section 8.1. Reviewing possible interventions considering the implications of this research mentioned above would enable a clearer understanding of whether a specific intervention would be helpful and appropriate in a given situation. Given that many factors are common to both resilience and thriving at work (whether negative or positive), it may be worth prioritising interventions to address factors that impact both, and so reaping the benefits of both resilience and thriving at work.

Individuals should recognise that it is hard to thrive at work without a supportive organisation and a sense of community. Therefore, when aiming to thrive they should consider whether thriving at work is even possible in their current situation – at least without major organisational change. They may be more likely to thrive if they put their effort into moving to a role, team or organisation with more support and a stronger community, than in working on interventions targeted at their individual thriving. Alternatively, if they feel it is feasible, they could look for ways to build a more supportive culture and a greater sense of community in their existing role, team and/or organisation, as well as focusing on their individual thriving. Finally, they may wish to consider interventions that have been shown to impact both resilience and thriving at work, so as to support themselves in dealing with adversity while also setting themselves up to thrive when the situation improves.

Organisations who want to see their employees thrive should focus their attention on developing a supportive culture and sense of community in their organisation. This will potentially have more impact than focusing on interventions to help individual employees increase their skills and resources. Having said that, in times of adversity it may be appropriate to focus on helping employees increase their coping skills, positive attitudes and other factors helpful for both resilience and thriving, again so that they reap the benefits when the situation improves.

9.4 Short Interventions Based on the Framework From This Research can Increase Thriving at Work

The final study, described in Chapter 8, illustrated the utility of a one-session coaching intervention in increasing individual thriving at work. It also highlighted the potential benefits of using the framework developed in this research outlined in the previous section (Figure 5) to design an intervention.

The process of designing the intervention, documented in Chapter 8, highlighted how the framework in Figure 5 could be useful in designing an intervention to increase thriving at work. The factors selected for focus in the coaching sessions, prioritising relationships and being more authentic at work, were taken directly from the framework shown in Figure 5. They were both confirmed to be supporting factors for thriving at work in the structural equation modelling in Study 4. Therefore, they seemed to be good factors to include as part of the coaching intervention, which was borne out by the results.

While all study participants reported enjoying their participation in the study, only those coached showed a statistically significant difference in their thriving at work scores. This suggested that it was the coaching that made the intervention effective, rather than purely the education about resilience and thriving at work. Coached participants reported they found the coaching particularly useful in planning specific actions that might impact their thriving at work, based on the increased knowledge of resilience, thriving and potential impacting factors gained in the study. This was in accordance with the literature discussed throughout this dissertation on the importance of context and personalisation in resilience and thriving at work. The research on interventions summarised in section 8.1 specifically showed that interventions had to be personalised to the person and the situation – which is what this coaching intervention automatically ensured.

9.4.1 Implications for Research

As discussed in Chapter 8, the results from this study, while promising, cannot be relied on statistically because the numbers were too small. More research is needed on a larger population. This would potentially require a design change. The semi-structured coaching intervention (Appendix S) was conducted by the same coach (the researcher) for every participant. This was feasible given the small number of participants. It also meant that no oversight was required to ensure the coaching was consistent across every participant. While coaching by its nature is personalised, in a larger study attention would need to be paid to ensure good consistency across participants to fully demonstrate the effectiveness of intervention.

Also, the duration of the study was too short to identify if there would be any lasting benefits from the intervention. Future studies should measure thriving at work (and potentially other outcome variables of interest) more than twice – perhaps adding another survey 3-6 months after the intervention.

Similarly, this demonstration study targeted only two of the variables in the framework linking resilience and thriving at work (Figure 2 on page 97). Future research could explore the impact of other variables from the framework as the targets of the coaching session. The intervention could also be expanded across multiple sessions, perhaps each targeting a different variable or two from the framework.

Finally, coaching is just one of the interventions already shown to impact resilience and/or thriving at work. The large number of resilience interventions already studied and shown to be effective for building resilience (see section 8.1) could be reviewed in light of the

framework from this research to identify further candidate interventions that might also impact thriving at work. These could then be the subject of further research into their impact on thriving at work in addition to resilience.

9.4.2 Application in the Real World for Individuals and Organisations

Messages from this research for practitioners, organisations and their employees include:

16. Coaching may be a helpful intervention to increase thriving at work for individuals, irrespective of their organisation and circumstances, as it can encourage actions specific to the individual and their situation.
17. Purely educational interventions may not be effective in increasing thriving at work.
18. Interventions to increase thriving at work do not have to be long and complicated.
19. The framework of the relationship between resilience and thriving at work developed in this research (Figure 5) may be useful in designing effective interventions. One or more factors in the framework could be used as the basis or target for an intervention, which may then impact resilience or thriving at work or both.

These findings are encouraging for coaches and organisational consultants. Coaching is already widely used for personal development by organisations and individuals (Ebrahimi, 2024; Passmore et al., 2019). This research, even though only a small demonstration project, suggests that coaching would be a fruitful intervention to pursue when focusing on increasing thriving at work. Coaching, by its nature, is situation-specific, and has already been shown to be an effective approach for building resilience at work (Vanhove et al., 2016). The framework from this research (Figure 5 above) provides a structure for selecting variables to target in the intervention.

The lack of impact of the purely educational side of the intervention, the PRP report, suggests that organisations and individuals aiming to improve thriving at work should consider how to personalise their interventions to the individual and their specific situation. The coaching intervention in this research, while structured and educational, was at the same time highly personalised to the individual. Participants were able to target actions they felt would be most helpful to target their thriving at work in their particular context.

This research highlights that thriving at work can be influenced by a targeted, short intervention of a single coaching session. This is encouraging for both individuals and organisations, as it implies that changes can be made without huge investments of time and money.

The use of the framework in Figure 5 in the design of the intervention for Study 5 illustrates that framework's utility in helping identify or prioritise factors to target in interventions. Once an intervention's desired outcome has been defined, the framework in Figure 5 could be used to identify factors that might result in that outcome.

9.5 General Observations Resulting From This Research

9.5.1 Impact of COVID-19

Part of the researcher's aims for this work was to understand if and how the COVID-19 pandemic and associated changes in work practices had impacted how desk-based workers experienced resilience and thriving at work. The question was whether pre-COVID research findings into resilience and thriving at work were still valid post-COVID (see section 1.2).

As mentioned in Chapter 6, COVID-19 did not figure in the results reported by Study 3, because it was not even mentioned by most of the participants, despite the study taking place towards the end of the pandemic, when it might have been expected to be top of mind. The researcher therefore did not focus on COVID-19 in the rest of the studies in this research.

The conclusion drawn by the researcher was that while the COVID-19 pandemic was remarkable for the depth and breadth of impact it had world-wide on many aspects of life and work (Ourworldindata.com, n.d.), in the context of resilience and thriving at work it could be considered just another adversity (or set of adversities) that people had to cope with. Therefore, it was likely (although not directly shown) that pre-COVID research findings were still applicable to desk-based workers post-COVID. The literature review (section 2.4) showed initial support for this second conclusion, but research is only just starting to be published and is in no way definitive.

Further research will no doubt be published on the impact of COVID-19 for many years, so more evidence may be found supporting the conclusion that pre-COVID research findings are still valid post-COVID.

9.5.2 Applicability of Research Findings From Other Populations to Desk-Based Workers

This research has not highlighted anything that suggests desk-based workers differ from other occupations in their experience of resilience or thriving at work. In fact, as highlighted in section 9.1 above, there was considerable overlap in the findings from this research (notably the factors relating to resilience and thriving at work) and those of existing research, which has mostly been conducted on other occupational populations (as highlighted in section 2.2.4).

This suggests that it is appropriate to apply such research, including interventions that have been tested on other occupational populations, to desk-based workers.

9.5.3 Similarities and Differences Between Thriving at Work and Wellbeing

Subjective wellbeing and thriving are considered similar by some authors (e.g., Su et al., 2014), and one of the questions prompted by this research was how they might be distinguished from each other (see section 2.1.3).

The literature review suggested that wellbeing and thriving were distinct but potentially overlapping (see section 2.1.3). Although not the focus of the studies, a measure of wellbeing was included in all the studies to enable comparisons with thriving at work. The ONS measure of wellbeing (Office for National Statistics, 2021) was used in every study, as recommended by VanderWeele et al. (2020). The short measure of Psychological Wellbeing (Ryff & Keyes, 1995) was also used in the third study focusing on potential mediators in the relationship between resilience and thriving at work (see Chapter 7), as its sub-dimensions fit well with the potential mediators of interest. In each case, the correlations between thriving at work and wellbeing were positive (as might have been expected) but also weak-moderate, providing further support for the position that thriving at work and subjective well-being are distinct concepts but related.

The review of factors associated with resilience and thriving at work documented in Chapter 4 found that wellbeing had been shown to be an outcome for both resilience and thriving at work. This was corroborated in Study 3 (Chapter 6) when multiple positive emotions and meaning and purpose were associated with thriving at work by many of the participants.

Future research could therefore investigate exactly how wellbeing and thriving at work are related, perhaps in a similar way to how this research focused on the relationship between resilience and thriving at work. This research has only briefly considered how wellbeing and thriving might be related. A clearer understanding could be beneficial to practitioners looking advise clients in how to use limited resources to build both wellbeing and thriving at work, since both have been shown to be of great value to both individuals and organisations.

9.6 Researcher Reflections

9.6.1 My Personal Motivation for This PhD Research

My interest on the relationship between resilience at work and thriving at work developed most recently from the observation that in these challenging times resilience on its own, while desirable, just does not seem like enough. Would it not be preferable not just to bounce back or sustain previous functioning whatever is happening in our lives (both common

conceptualisations of resilience), but to bounce *forward* – to grow and develop to realise our full potential? So, to thrive?

Peoplewise Ltd, my PhD sponsor, has focused on this topic for some years now, developing a model and a psychometric for ‘bouncing forward’, which they name Positive Resilience (Board et al., 2021). Working with Peoplewise for the internship year of this PhD, I became more and more interested in understanding and researching thriving at work, how it related to resilience at work (if indeed it did), and how I could use that greater understanding to help individuals and organisations experience the benefits of increased thriving at work.

Having said that, resilience and thriving at work have long interested me, both through my personal experiences and during my decades-long career in organisational consulting and career and executive coaching. I have lived and worked in three different continents, with the associated challenges with settling in and understanding a new culture. I have worked with individuals and organisations of many different backgrounds and industries, and in organisations ranging from sole practitioners to large multi-national corporations. My work has always included a focus on how to help people live better lives: how they might function better at work, enjoy their work more, and feel better in themselves. I have been actively studying what science could tell me about these topics since 2006.

Living through and after the major earthquakes in Christchurch, New Zealand in 2010 and 2011 honed my interest in how to not just survive but thrive despite adversity. I needed to focus not only on my own coping skills and ability to move forward, but also to identify the most effective ways to advise client individuals and organisations on how to handle the constant challenges, including physical, financial, emotional and psychological difficulties.

The earthquakes and their aftermath prompted me to recognise that what is most important to me is helping people to improve their lives, whatever their circumstances. As a scientist by inclination and training, it is important to me that I know and understand relevant academic research and that the approaches I use with clients are evidence-based. I have now spent nearly 20 years studying and teaching the positive psychology research on resilience, post-traumatic growth, wellbeing, thriving and related concepts, both in universities and through my work as a consultant and coach, culminating in my work on this PhD.

This PhD was the opportunity for me to delve deeply into researching and understanding resilience and thriving at work, to provide a clearer evidence base to help individuals and organisations in these tumultuous times.

9.6.2 This is not Where I Expected to end up When I Started This Research

Looking back on the journey of this research, I realise I have not at all ended up where I expected to be in some ways, and yet in other ways I have achieved exactly what I wanted to. This is apparently common in PhD research – listening to other PhD students and hearing their stories, I have not found one whose final outcomes had been exactly as they expected going into the process.

In my case, the change was particularly noticeable, as the research programme that developed as I proceeded is completely different to the PhD I literally signed up for, which was advertised on FindAPhD.com: “Resilience & Well-Being in work – development and evaluation of a web based application” (www.findaphd.com, job advertisement, December 2019). The project was described as spending an internship year working with Peoplewise Ltd. (the sponsor) helping to develop and produce “a new workplace resilience web application”, which would then be “trialled, tested and analysed in the PhD research project” (Peoplewise, personal communication, December 2019). As I mentioned to many friends at the time, the PhD could not be a more perfect fit with my interests and experience if I had written it myself. It was focused on resilience and wellbeing at work, involved application development (with which I had over 20 years of experience), working alongside a company doing exactly the sort of work I wanted to do with the sort of clients I was interested in, developing a tool that would be highly useful in practice with organisations and individuals.

Unfortunately, during my internship year with Peoplewise Ltd., although we did develop an app, it became clear that further development and evaluation of that app was no longer a priority. Of the 60 users in the pilot study, only one used the app we had developed more than once. The literature revealed that high dropout rates for usage of similar apps were common (e.g., Meyerowitz-Katz et al., 2020; Torous et al., 2020), and my supervision team and I felt that further work on the app would not provide the benefits originally anticipated. I had become particularly interested in how resilience and thriving at work were related while working with Peoplewise during the app development. So, with the agreement of my supervision team, towards the end of my internship year I switched to focusing my research on what became this research question and programme of studies.

9.6.3 The Impact of Completely Changing PhD Topic – A Solitary Working Environment

What I had failed to realise when changing my topic, however, was that I had swapped a project which would have had a high degree of people contact, for example with Peoplewise staff, staff in partner organisations who would trial use of the app, and the app users themselves

(particularly when doing qualitative research on the app), to a topic that could have become almost entirely theoretical researched with online surveys and virtual meetings.

The advent of COVID-19 and the associated lockdowns and challenges also completely changed the nature of the project. From expecting to be in the Peoplewise office every day of my internship year, I did not visit once. To this day I have never met my business supervisor in person, nor most of the other Peoplewise staff. The university campus was also closed for much of the first two years of my PhD, and even when it reopened PhD students were initially not encouraged to visit in person.

So working on this PhD became a very solitary experience, within a context where everyone was encouraged to isolate. I was experiencing exactly what I was researching – major adversity for a desk-based worker. I wanted to thrive but found myself instead questioning the value of my research in the real world. What use was it to understand what the literature said about if and how someone could thrive through adversity when I couldn't even figure it out for myself? Why would anyone be interested in what I was working on? I realise now that my concerns were partly a reflection of low mental health brought on by isolation and a bout of COVID-19, but they were also a function of how I had designed the PhD programme of work: mostly literature review and surveys, with virtual interviews. Fortunately, not only I but also my primary supervisor recognised this, and together we found ways to include more “real people” and try out the theory in the real world, which kept me sane and motivated as I worked through the research.

Looking back, while I would not change the research programme, I would try harder to change my working environment. As my research has highlighted, the work environment is critical to both resilience and thriving at work – and mine was not ideal for much of the time. I was working full time on the PhD research, and the terms of my contract prohibited me taking on other work. I was working mostly from home, in my home office, on my own all day. While regularly in contact with other PhD students on WhatsApp, I was rarely able to see them in person, as most were working from home, or part-time. This meant that my sense of community was very weak initially. Over the past couple of years, I have deliberately developed it through reaching out to fellow students and participating in WhatsApp chats and meeting in person when possible. I would aim to spend more time at the university or find a local space to work regularly with others around. I would also strongly consider in-person interviews and coaching sessions, if possible, although that would limit my ability to source participants, and was in any case not possible during COVID-19.

9.6.4 Building Resilience and Trying to Thrive Despite Adversity

In terms of my own actions, I knew that to be more resilient and build towards thriving, I should reach out to my community at work (fellow PhD students and supervisors), find meaning and purpose in what I was doing, keep on going, and look after my own wellbeing. My reflexive journal has multiple entries along those lines.

For example, in July 2022 I commented:

“I've loved doing all the interviews. I'm engaged and enlivened by the discussions. The parts I'm struggling with are where I don't have any human input or conversation. It's lonely and I don't want to work on my own on it without any input from anyone else”.

In August 2022 I was thinking: *“Recognise I'll get fed up at times and throw toys out of pram, but also that I have a long-term purpose and I just need to get on with it. See it as a journey.”*

By October 2022 I commented:

“Talked to [fellow PhD student] and we've put a couple of sessions in our diaries where she will come to stay and we will do our own little 'boot camp' and encourage each other to buckle down and get on with things. This is going to be really helpful I think.”

Working with my supervisors helped keep me on track. In March 2023 I commented: *“Feel a sense of progress after putting [progress] presentation together and discussing with Belinda and Colleen. It's starting to make sense, hang together, and feeling like a worthwhile thing to do after all”.*

By early September 2023 I was writing things like *“It's very clear that I need community, support and other activities involving other people while I do this”* and also that *“I'm getting more excited about what I'm doing now I'm getting positive feedback from scholars I value”* and, *“[PhD student staying] here is really helping me get more motivated”*.

In January 2024, after the first coaching session for Study 5, I was very happy to be finally working with clients again *“I came out feeling uplifted that this is what I want to do with my research - make a difference for real people.”*

Looking back now, I see it as a very up-and-down journey. The combination of starting the research during the COVID-19 pandemic, with the associated isolation, changing topic to something very solitary, and periodic bouts of ill-health were challenging adversities to overcome. On the plus side, I was intermittently and am now able to see the value in what I have done in the real world, which has kept me going, along with steadfast support from friends and family. I am a living example of my own research findings!

9.6.5 Questioning What I Was Doing in the Research

There were several points during the journey where I became discouraged because of the level of confusion in the literature, which resulted in me getting confused and questioning my research and whether I was doing it well, or at least doing the right things. For example, in September 2022 I commented, *“Going through the spreadsheet to look for all common factors between resilience and thriving at work is at once enjoyable and frustrating. Many references within the meta-analyses and structured reviews are not clear.”*

This was exacerbated by my position as an insider-researcher, as documented in Chapter 3. Particularly during my reflexive thematic analysis work, I found myself questioning if I was putting too much of my own knowledge into the analysis. For example, in January 2023: *“I’m worried that I’m pushing meaning into my work that isn’t there, or emphasising parts due to my background and beliefs rather than letting the full meaning through”* and

“My positionings and life experiences mean that I expect people to be resilient even in the face of very difficult situations and traumas, and that people are always in a position to make choices. I’m so privileged that I need to make sure this doesn’t overly colour my findings.”

This is of course part of the reflexive process required in reflexive thematic analysis. I spent some time on the reflexivity exercises in Braun & Clarke (2021b), which helped. For example: by April 2023 I had become more confident that I could bring in both the data and my experience: *“I’ve completely reorganised my coding, and I feel much more confident now that my themes and my diagram are accurately representing my data.”*

9.6.6 Impostor Syndrome

My biggest issue, throughout this whole research process, has been impostor syndrome. For example, in my journal: January 2023: *“I am afraid that my research won’t have value to anyone and that it won’t be able to be used to make people’s lives at work better, which is my*

over-riding purpose.” And in March 2023: “*Absolutely petrified of not being good enough to do this and letting myself and everyone else down*”.

Two things have helped me the most with the impostor syndrome issue (although it still rears its head occasionally). Firstly, discussing my research with friends – particularly other PhD students and fellow Master of Applied Positive Psychology graduates from UPenn. They have enough background to understand what I’m doing, and they have consistently given me positive feedback that has helped me keep going. Secondly, pulling together all my research into this dissertation. When I started to collate everything into this one document, I went back through all my research and the literature. I found that I had forgotten a lot of the detail of work I did during the first years of the research. I realised that not only had I done some high-quality work, but that it would be of interest and value to many people.

9.6.7 Who I am as a Researcher – How my Worldview has Driven the Research

One aspect of the research process that has only recently become clear to me is my epistemological perspective. Throughout most of the journey, I thought of myself as a social constructionist due to my work as a career and executive coach and consultant. This was despite my initial training as a positivist, studying mathematics at a very traditional university followed by more than two decades of working on IT systems. However, a discussion on the first draft of this dissertation with my supervisors caused confusion, when they pointed out that I had taken a rather positivist approach to the programme of studies, and I wasn’t presenting the results as a social constructionist would. I went back to my reflexive journal and found a few clues. In January 2023, going through one of the reflexivity exercises from Braun & Clarke (2021), I had written:

“I’m drawn to both quantitative and qualitative research. I like being able to use statistics to increase our understanding of the big picture, but also being able to draw deep insights from interviews and qualitative analysis to increase our depth of understanding of topics, and ways in which individuals may differ about those topics as well as ways in which they are similar.”

In reading my journal, and the pile of books on my desk about different research methods and paradigms, I finally came to a realisation. While I definitely expect different people to give different meanings to the same event (social construction), I do believe that events happen in the real world, that people react to them, and that research should be looking for causal mechanisms as to how or why things happen. This, as far as I can tell, is critical realism.

However, I am also a practitioner, and when I read a little further, I realised that actually, my focus is as a pragmatist. While I find reading and doing academic research interesting, what really motivates me is to use research to make a positive difference in the real world. This is what caused me to enrol in the Master of Applied Positive Psychology programme at UPenn, and also what drove me to do this PhD, as I mentioned earlier. Just after the quote above, I also wrote: *“I am hoping that I can find something interesting and useful in my research that I can then use to help organisations support their staff to be both more resilient and to thrive more.”*

This is the worldview behind all the decisions I have taken during this programme of research. Asking “So What?” and looking for the practical value in my work. I was so happy when I realised that the pilot coaching intervention in Study 5 had made real differences for people in their working lives, not just in their answers to an academic scale.

9.7 Conclusion

In reviewing my reflexive journal, I came across a list I wrote at the beginning of February 2022 (about 5 months after the start of my research). It says:

“What questions do I want to have answered by the end of my PhD?”

- What does **resilience** look like for an average office worker? Behaviours?
- What does **thriving** look like for an average office worker?
- What's the difference between resilience and thriving for an average office worker?
- How would you measure resilience and thriving for an average office worker?
- How can an average office worker build resilience and/or thriving?
- What's the best way for an average office worker to build resilience and/or thriving?
- What's the process for an average office worker to build resilience and/or thriving?
- The importance of context?”

Reviewing this list, I would say that the research programme described in this dissertation has addressed most of these questions, albeit not as I expected it to. (Note: Part way through my research I changed from using the term “average office worker” to describe my target population to the term “desk-based worker”, which described more clearly what I meant). I found everything much more complex than I expected, with many of the answers to the above question being “it depends”. At the end of this journey, I can now say that resilience and thriving at work are more complex than I dreamed of at the beginning, and that the relationship between the two is even more complicated. Building resilience and thriving at work requires so much focus on the specific individual in their particular situation, that it can feel hard to give any suggestions as to how to move forward.

I am a practitioner, and for me the purpose of research is to find ways to help people make their lives better – whatever that means to them. At times during this research, it was hard to see how what I was doing would achieve that goal. But in writing this dissertation, and particularly this final chapter, I have finally shown myself (others already believed!) that – while there are no hard and fast rules – the insights and applications of my research in my work will be useful to practitioners, organisations and individuals in helping desk-based workers build and sustain resilience and thriving at work. I end this dissertation with a sense of fulfilment and look forward to taking my research out into the world to help people.

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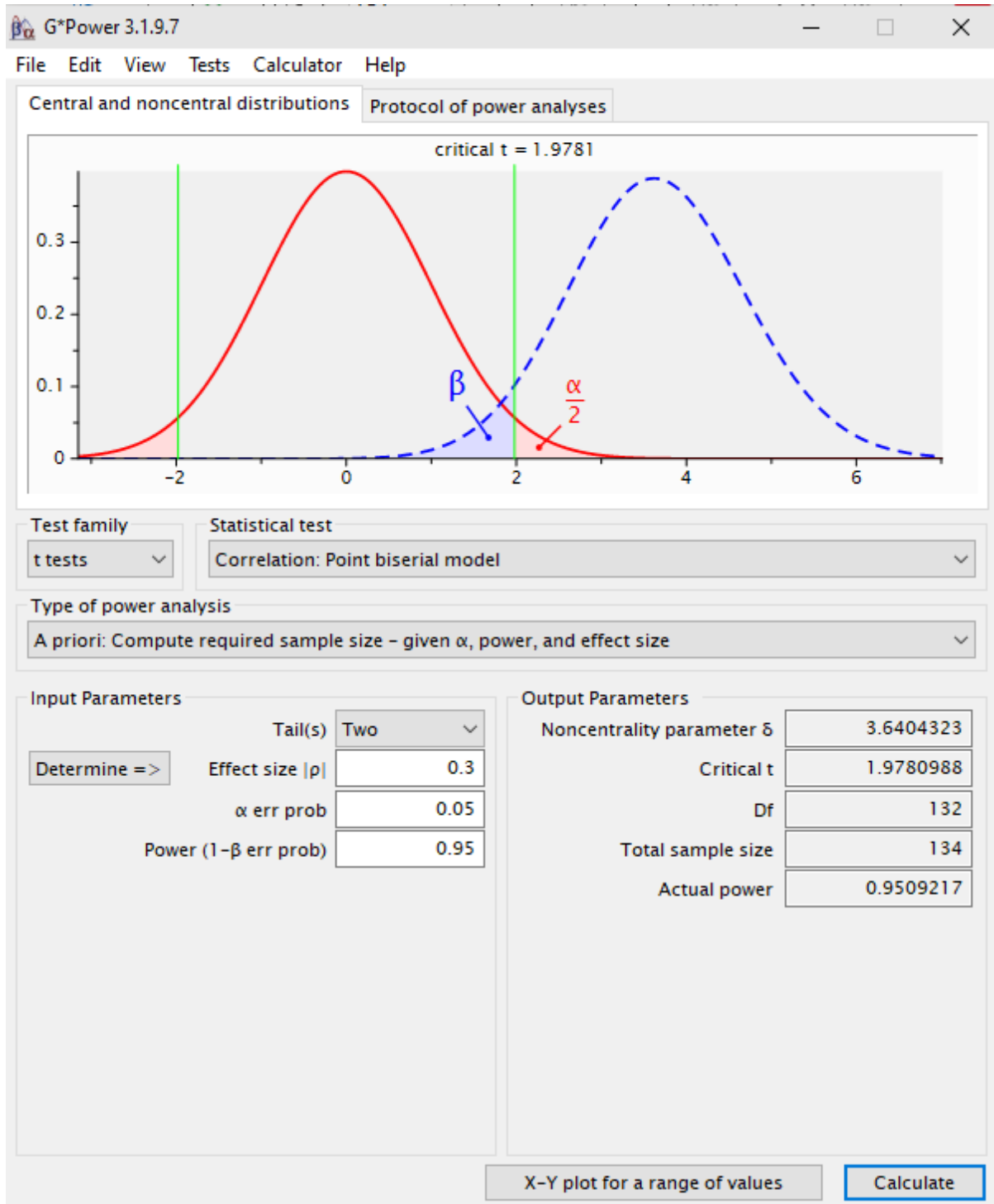
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Appendices

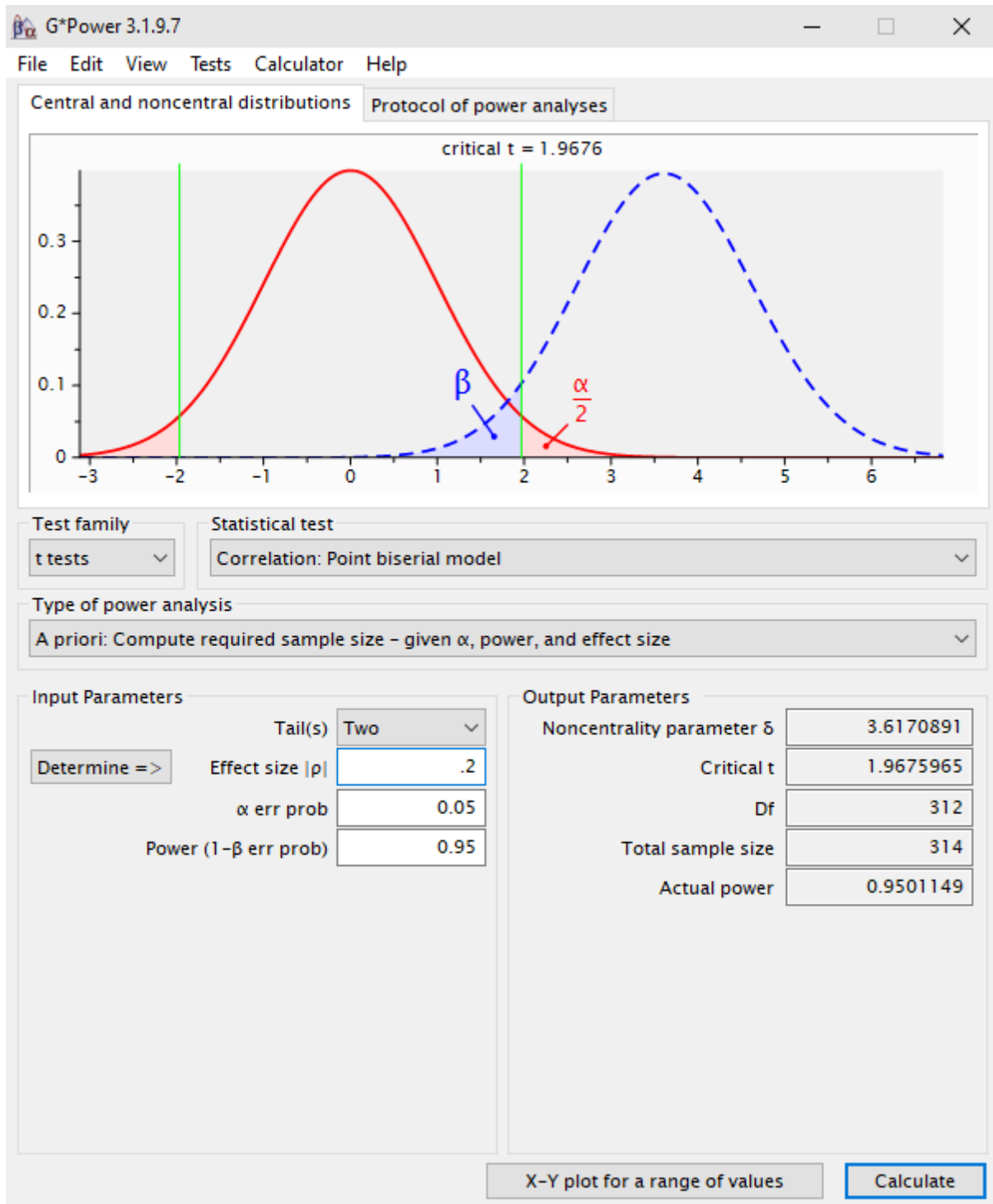
Appendix A

G*Power calculations for Sample Sizes for Quantitative Studies

Appendix Figure A.1 G*Power Calculation for Correlation, 2 Groups, Two-Tailed, Effect Size 0.3



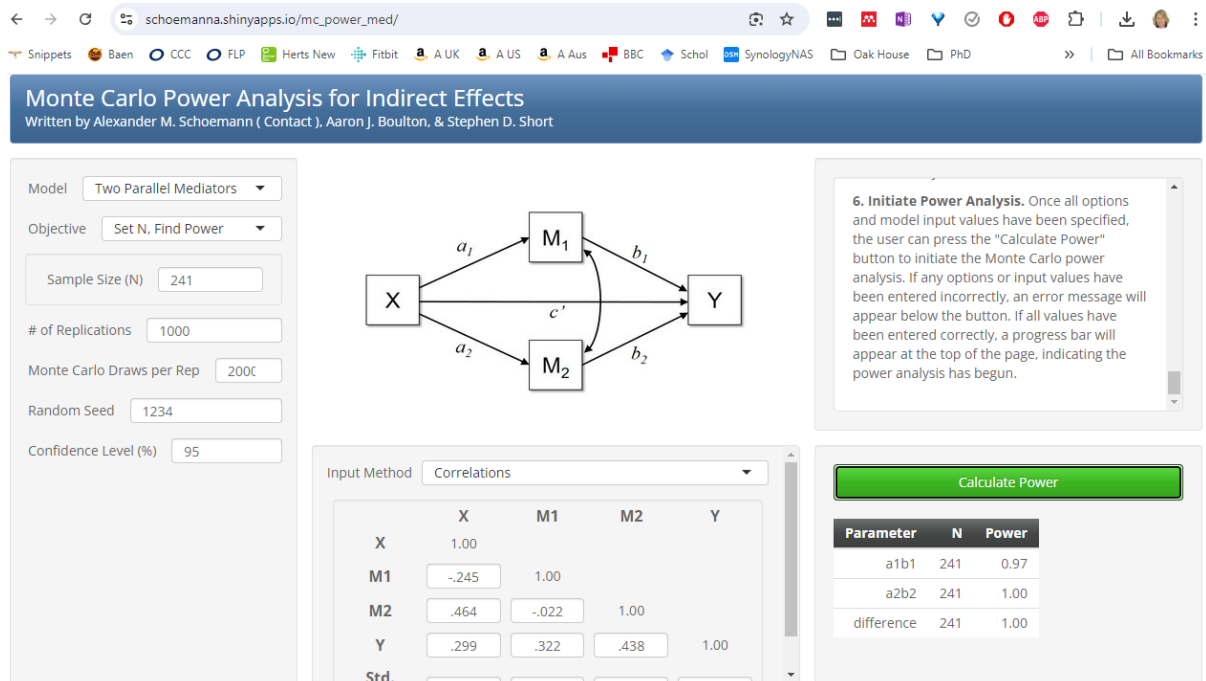
Appendix Figure A.2 G*Power Calculation for Correlation, 2 Groups, Two-Tailed, Effect Size 0.2



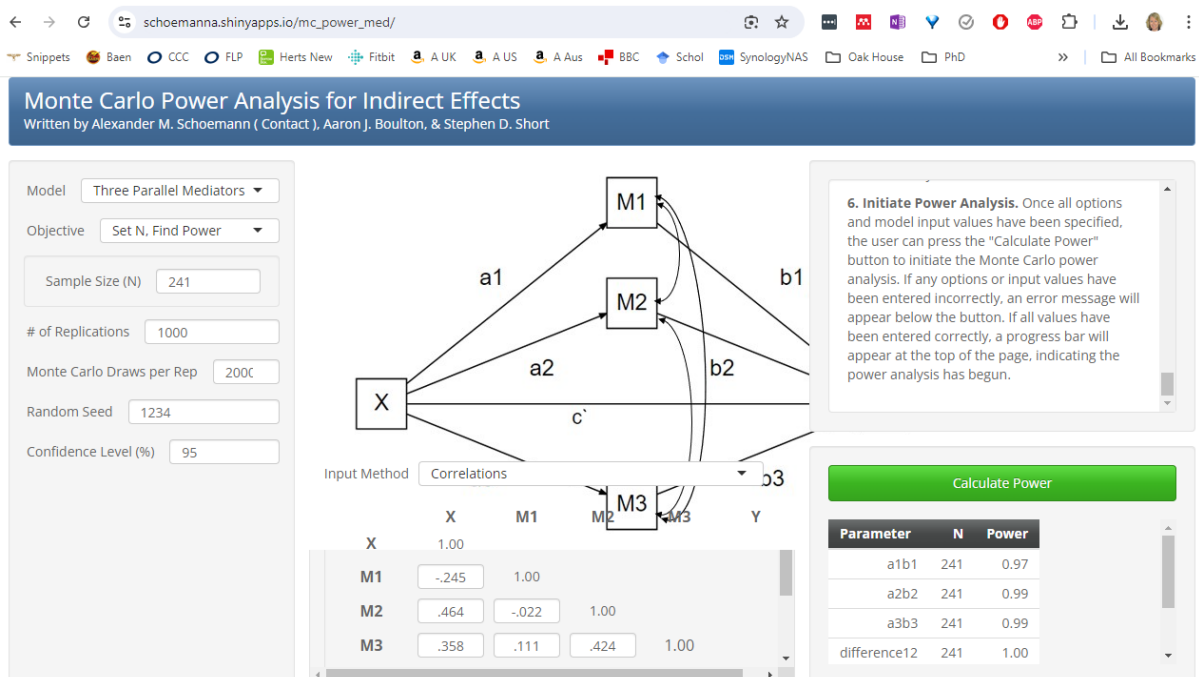
Appendix B

Power Analysis for Structural Equation Modelling in Study 4

Appendix Figure B.1 Two Parallel Mediator Model (Communion Striving and Individual Authenticity Model at Work)



Appendix Figure B.2 Three Parallel Mediator Model (Communion Striving, Individual Authenticity Model at Work, Sense of Coherence)



Appendix C
Ethics Approvals for all Studies



HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA

ETHICS APPROVAL NOTIFICATION

TO Rosemary Hancock
CC Dr Colleen Addicott
FROM Dr Simon Trainis, Health, Science, Engineering & Technology ECDA Chair
DATE 12/05/2022

Protocol number: LMS/PGR/UH/04986

Title of study: Investigation into the relationship between Resilience at work and Thriving at work

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Ruby Degun 16007122 – data collection

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 01/06/2022

To: 31/12/2022

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.



HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA

ETHICS APPROVAL NOTIFICATION

TO Rosemary Hancock
CC Colleen Addicott
FROM Dr Simon Trainis, Health, Science, Engineering & Technology ECDA Chair
DATE 04/08/2022

Protocol number: aLMS/PGR/UH/04986(1)

Title of study: Investigation into the relationship between Resilience at work and Thriving at work

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Ruby Degun 16007122 – data collection

Modification: detailed in EC2

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Original protocol: Any conditions relating to the original protocol approval remain and must be complied with.

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 04/08/2022

To: 31/12/2022

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit a further EC2 request.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A or as detailed in the EC2 request. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.



**HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA
ETHICS APPROVAL NOTIFICATION**

TO Rosemary Hancock
CC Dr Colleen Addicott
FROM Dr Rebecca Knight, Health, Science, Engineering & Technology ECDA Vice Chair
DATE 01/11/2022

Protocol number: LMS/PGT/UH/05150
Title of study: Relationships between resilience at work, thriving at work, and common outcome factors

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

no additional workers named

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 01/11/2022

To: 31/12/2022

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.



HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA

ETHICS APPROVAL NOTIFICATION

TO Rosemary Hancock
CC Professor Keith Laws
FROM Dr Rosemary Godbold, Health, Science, Engineering and
Technology ECDA
DATE 14/09/2023

Protocol number: aLMS/PGT/UH/05150(1)

Title of study: Relationships between resilience at work, thriving at work, and
common outcome factors

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

No additional workers named

Modification:

As modifications as detailed on the EC2

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Original protocol: Any conditions relating to the original protocol approval remain and must be complied with.

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 14/09/2023

To: 31/12/2023

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit a further EC2 request.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A or as detailed in the EC2 request. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.



HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA
ETHICS APPROVAL NOTIFICATION

TO Rosemary Hancock
CC Dr Colleen Addicott
FROM Dr Simon Trainis, Health, Science, Engineering and Technology
ECDA Chair
DATE 31/10/2023

Protocol number: LMS/PGR/UH/05490

Title of study: Exploring mediators in the relationship between resilience and thriving at work

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

No additional workers named

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 31/10/2023

To: 31/12/2024

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.



HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA
ETHICS APPROVAL NOTIFICATION

TO Rosemary Hancock
CC Dr. Colleen Addicott
FROM Rebecca Knight, Health, Science, Engineering and Technology
ECDA Vice-Chair
DATE 14/11/2023

Protocol number: LMS/PGR/UH/05499
Title of study: A case study intervention to explore the relationship between
resilience and thriving at work

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

Dr. Roberto Gutierrez, 2nd Supervisor. r.gutierrez@herts.ac.uk
Dr. Belinda Board, Industry Supervisor, PeopleWise Ltd.
belinda.board@peoplewise.co.uk

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 14/11/2023

To: 31/12/2024

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.

Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.

Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.

Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.

Appendix D

Full Results From the Review Into Antecedents & Outcomes of Resilience and Thriving at Work

Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
(Internal) Locus of control				×		Helmreich, I., Kunster, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012538	+ 6 SRs: Bjørkløf 2013; Dias 2015; Saksvik 2011; Senra 2015; Stewart 2011; Van Leeuwen 2012 + Cross-sectional studies: e.g. Kilic 2013; Sattler 2014; Solomon 1988 - Longitudinal studies: e.g. Karstoft 2015; Lawler 1992; Milke 2015; White Jensen, Trollope-Kumar, Waters, & Everson (2008)
Ability to effectively manage work demands	Work			×		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-953. https://doi.org/10.1111/apps.12191	Jensen, Trollope-Kumar, Waters, & Everson (2008)
Abusive supervision	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Liu (2016), Luo (2016), Zhao et al. (2018), Usman et al. (2021)
Accountability (feeling genuinely needed, that what you do matters)				×		Ungar (personal communication, 2019)	
Active coping (e.g., problem-solving, planning)				×		Helmreich, I., Kunster, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012527	+ 2 MAs: Kvillemo 2014; Moskowitz 2009 + 4 SRs: Bjørkløf 2013; Kneebone 2003; Senra 2015; Van Kessel 2013 + Cross-sectional studies: e.g. Al-Yagon 2003; Dörfel 2008; Lechner 2007; Luo 2015; Marty 2010; Wang 2014 + Longitudinal studies: e.g.
Adaptability	Army			×		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Pitschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Agentic work behaviours: exploration	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2573	
Agentic work behaviours: heedful relating	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2571	Sia and Duari (2018); Paterson et al (2014)
Agentic work behaviours: task focus	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2572	Niessen et al (2012); Paterson et al (2014)
Altruism				×		Helmreich, I., Kunster, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012542	+ Narrative reviews or discussion papers: Haglund 2007; Southwick 2005; Wu 2013
Altruism	Army			×		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Pitschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Authentic leadership	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	An (2015), Mortier et al. (2016), Xu et al. (2017), Shen et al. (2018)
Authentic leadership	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2602	Chang et al., 2020
Authentic leadership	Work	×				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Mortier et al., 2016
Autonomy	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Gu (2015), Xie (2016), Li (2018)
Autonomy and independence	Work	×				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025534	
Basic needs met/Structural resilience in society/ Support systems				×		Panter-Brick and Yehuda in Southwick et al., 2014; Ungar personal communication, 2019	
Behavioral control	Army			×		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Pitschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	

An Investigation Into the Relationship Between Resilience and Thriving at Work

Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Belongingness	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Fitschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> . (Vol. 1, Issue 2). RAND Corporation.	
Belongingness	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103. https://doi.org/10.1108/IJOA-09-2019-1886	Panagiotis, G., Panagiota, K. and Eugenia, P. (2013). "The mediating role of belongingness in the relationship between workplace incivility and thriving", <i>International Journal of Employment Studies</i> , Vol. 21 No. 2, pp. 63-78.
Biopsychosocial strain	Work				x (-ve)	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Ferris, Sinclair, and Kline (2005)
Brain fitness ('training to keep mentally sharp')				x		Southwick & Charney, 2018	
Broad information sharing	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Liu and Bern-Klug (2013)
Burnout (incl. emotional exhaustion and job strain)	Work		x (-ve)			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2393	Hildenbrand, K., Sacramento, C. A., & Binnewies, C. (2018).
Burnout and emotional exhaustion	Work				x (-ve)	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Cooke, Doust, & Steele, 2013; Harker, Pidgeon, Klaassen, & King, 2016; Shoss, Jiang, & Probst, 2018
Business confidence	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Yang & Danes, 2015
Calling/Spirituality	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Ablett & Jones, 2007; Meek et al., 2003
Capacity to constructively express positive and negative emotions within a relationship	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Stephens, Heaphy, Carmeli, Spreitzer, and Dutton (2013)
Cardiovascular disease/Physical health	Work				x (-ve)	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Ferris, Sinclair, and Kline (2005)
Career adaptability	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2627	Jiang, 2017
Career commitment	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2629	Jiang et al., 2020
Career development	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025600	
Career engagement	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2630	Jiang et al., 2020
Career resilience	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2628	Jiang et al., 2021
Career satisfaction	Work		(x)			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2631	Jiang et al., 2020
Career satisfaction	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	e.g., Lounsbury et al., 2003; Lyons et al., 2015
Career satisfaction	Work		x			n/a	Huo, M. L., & Jiang, Z. (2021). Trait conscientiousness, thriving at work, career satisfaction and job satisfaction: Can supervisor support make a difference? <i>Personality and Individual Differences</i> , 183(June), 111116. https://doi.org/10.1016/j.paid.2021.111111

An Investigation Into the Relationship Between Resilience and Thriving at Work

Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Career success self-evaluation	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei & Taormina, 2014
Challenge Stress	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Flinchbaugh et al. (2015). Prem et al. (2017)
Challenges	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025599	
Climate of trust and respect	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025605	
Closeness with others - Love, intimacy, attachment	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Cognitive flexibility (e.g., positive reappraisal, acceptance of negative situations and emotions)				x		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012531	6 MAs: Helgeson 2006; Kvillemo 2014; McIntosh 2012; Moskowitz 2009; Prati 2009; Shand 2015 + 11 SRs: Allart 2013; Bjorklof 2013; Dias 2015; Guardino 2013; Kneebone 2003; Morris 2013; Nowlan 2015; Peter 2012; Senra 2015; Stewart 2011; Van Leeuwen 2012 + Cross-sectional studies: e.g. Bailey 2013; Farber 2003; Johnson 2015; Min 2013 + Longitudinal studies: e.g. Park 2008; Silver 2002;
Cohesion with community incl. shared values	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Cohesion with unit	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Collective efficacy	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Committed to job	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Ablett and Jones (2007)
Committed to job (incl. organisational commitment and team commitment)	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2395	Walumbwa, Hartnell, & Oke, 2010. Porath et al., 2012; Thakur, Bansal, & Stokes, 2016;
Communication with others	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Competence needs satisfied	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Verleysen, Van Acker, & Lambrechts, 2015
Connectedness. The quality and number of connections with other people in the community	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Connections with well-functioning communities/Sense of belonging				x		Masten & Barnes, 2018, Ungar (personal communication, 2019)	Not obvious!
Conscientiousness	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Hennekam (2017)
Conscientiousness	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei & Taormina (2014); Lyons, Schweitzer and Ng (2015)

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Conscientiousness	Work	×				n/a	Huo, M. L., & Jiang, Z. (2021). Trait conscientiousness, thriving at work, career satisfaction and job satisfaction: Can supervisor support make a difference? <i>Personality and Individual Differences</i> , 183(June), 111116. https://doi.org/10.1016/j.paid.2021.111111
Conscientiousness	Work	×				Nekooc, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025616	Hennekam (2017)
Coping abilities	Work				×	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Parker, Jimmieson, Walsh, and Loakes (2015)
Coping flexibility				×		Helmreich, I., Kunsler, A., Chmitorz, A., König, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012539	+ 1MA: Cheng 2014 + Cross-sectional studies: e.g. Atal 2016; Bonanno 2011; Burton 2012; Park 2015 + Longitudinal studies: e.g. Bonanno 2004; Galatzer-Levy 2012
Core self-evaluations & emotional stability	Work	×				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2376	
Creative performance (incl Innovative work behavior, Employee creativity)	Work		×			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2400	
Creativity	Work		×			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2620	Wallace et al., 2016
Cynicism at/about work	Work				× (-ve)	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Shoss et al., 2018
Decision-making discretion	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Liu and Bern-Klug (2013), Sia and Duari (2018), Novaes et al. (2020)
De-energising relationships	Work	× (-ve)				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Gerbasi et al., 2015
Depression	Work				× (-ve)	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	McLarnon and Rothstein (2013)
Disability	Work	× (-ve)				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Zhu et al., 2019
Emotional exhaustion (less)	Work		×			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2614	Niessen et al., 2017
Emotional family ties	Army				×	Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Emotional intelligence/Empathy	Work				×	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Förster & Duchek, 2017; Kinman & Grant, 2011
Emotional stability	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2585	Ren et al., 2015
Emotional stability	Work				×	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons, Schweitzer and Ng (2015)
Employee voice	Work		×			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2617	
Empowering leadership	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Li et al. (2016), Han (2017), Ali et al. (2018)
Empowering leadership	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2605	Liet et al., 2016

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Empowering leadership	Work	*				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Li et al., 2016
Empowering leadership (incl. Support for growth/mastery, Employee involvement climate, Generativity, Managerial coaching)	Work	*				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2387	
Environment facilitating experimentation and exploration	Work	*				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2634	Carmeli & Russo, 2016
Ethnicity	Work					Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Welbourne, Gangadharan, and Sariol (2015)
Expertise related to the job	Work			*		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Cameron & Brownie (2010)
Exploration	Work	*				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Sia and Duari (2018)
Extra-role behaviours	Work		*			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2616	Kleine et al. (2019); Wu et al., 2018
extraversion	Work	*				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025615	Hennekam (2017)
Fairness perception	Work	*				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Ghulam et al. (2020)
Feedback	Work	*				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Lee et al. (2015), Xie (2016)
feedback	Work	*				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025595	
Feedback seeking	Work		*			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2623	Paterson et al., 2014; Shan, 2016
Financial wellbeing				*		Ungar (personal communication, 2019)	
Flexible working	Work	*				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2598	Silen et al., 2019; Yang et al., 2021; Kim & Beehr, 2020; Jiang, Hu, et al., 2019; Zhang et al., 2022
Flexible working hours	Work	*				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025598	
Future orientation	Work			*		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei & Taormina (2014)
Hardiness				*		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012534	1MA; Eschleman 2010 + 4 SRs: Brooks 2003; Dias 2015; McCann 2013; Stewart 2011 + Cross-sectional studies: e.g. Alexander 2001; Andrew 2008; Bernas 2000; Farber 2000; Hystad 2011; Judkins 2005; King 1998; Natvik 2011; Waysman 2001; Weiss 2002 + Longitudinal studies: e.g. Niessen et al. (2012), Ted et al. (2013), Paterson et al. (2014), Abid et al. (2016), Sia and Duari (2018)
Heedful relating	Work	*				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	
Heedful relating, connectivity & belongingness	Work	*				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2382	Panagiotis, G., Panagiota, K. and Eugenia, P. (2013), "The mediating role of belongingness in the relationship between workplace incivility and thriving", <i>International Journal of Employment Studies</i> , Vol. 21 No. 2, pp. 63-78.
High job demands: ambiguity	Work	* (-ve)				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2581	Jiang, Jiang, & Nielsen, 2019

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
High job demands: Demands appraised as challenges	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2583	Prem et al. (2017)
High job demands: Global working	Work	×(-ve)				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2582	Dimitrova, 2020; Gibson et al., 2021
High job demands: role overload	Work	×(-ve)				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2580	Gkorezis, 2016
High job demands: Significant relational responsibilities	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2584	Dimitrova, 2020
High Perceived leader support	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2608	Rego et al., 2020
High performance work system e.g., extensive training and performance management	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2535	Silen et al., 2019; Yang et al., 2021; Kim & Beehr, 2020; Jiang, Hu, et al., 2019; Zhang et al., 2019
High-performance work system	Work	×				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Liu (2017), Zhang et al., (2018)
Hope				×		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012540	+ 2 SRs: Peter 2012; Van Leeuwen 2012 + Cross-sectional studies: e.g. Besser 2014; Hernandez 2013; Ong 2006; Truitt 2012 + Longitudinal studies: e.g. Ho 2010
Hope	Work	×				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025612	
Humour				×		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012541	+ 1 SR: McCann 2013 + Cross-sectional studies: e.g. Abel 2002a; Abel 2002b + Longitudinal studies: e.g. Kuiper 1992; Nezu 1988
Inclusive leaders	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2607	Zeng et al., 2020
Independence and freedom of the organisational units	Work	×				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025610	
Individual traits: core self-evaluations	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2578	Walumbwa et al., 2018
Individual traits: emotional stability & reliability	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2576	Hennekam, 2017
Individual traits: proactivity	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2577	Jiang, 2017
Individual traits: prosocial motivation	Work	×				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2575	Nawaz et al., 2020
Innovative behaviours	Work	×				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025601	
In-role performance	Work		×			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2615	Kleine et al. (2019)
Integration and coordination of organisational units	Work	×				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025609	
Intent to change careers/leave field	Work				×	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-953. https://doi.org/10.1111/apps.12191	Shin et al. (2012); Malik and Garg (2017); Gowan, Craft, and Zimmermann (2000)

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Intent to start a business	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Carless and Bernath (2007); Kidd and Green (2006)
Interaction with lively and successful people	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025604	
Involvement in professional associations	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2594	Sim et al., 2016
Job crafting	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Han (2017), Wang (2018)
Job design/technology to facilitate workplace relationships	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2591	Kaltenbrunner et al., 2019; Sun et al., 2019
Job diversification	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025597	
Job interest	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025617	
Job performance	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Luthans, Avolio, Walumbwa, & Li, 2005; Luthans, Avolio, Avey, & Norman, 2007a; Youssef & Luthans, 2007
Job resources: Coaching	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2588	Iverson, 2016; Raza et al., 2017
Job resources: Meaningful work	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2589	
Job resources: Task identity	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2587	Jiang et al., 2020
Job satisfaction	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Zhao et al. (2018)
Job satisfaction	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2626	Jiang et al., 2020
Job satisfaction	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	e.g., Badran & Youssef-Morgan, 2015; Youssef & Luthans, 2007; Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007).
Job satisfaction	Work		x			n/a	Huo, M. L., & Jiang, Z. (2021). Trait conscientiousness, thriving at work, career satisfaction and job satisfaction: Can supervisor support make a difference? <i>Personality and Individual Differences</i> , 183(June), 111116. https://doi.org/10.1016/j.paid.2021.111111
Job/career satisfaction	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2394	
Job/work engagement	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2381	
Job-crafting	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2618	Kira and Balkin (2014); Qi et al., 2019
Knowledge resources	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Niessen et al. (2012)
Leadership styles	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12205	Sommer et al. (2016); Harland, Harrison, Jones, and Reiter-Palmon (2005)

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Learning opportunity	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025602	
Learning/knowledge sharing culture	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12204	Malik and Garg (2017)
Life satisfaction	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2610	Zhai et al., 2017
LMX	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	An (2015), Li (2015), Xu et al. (2017), Zhang (2018)
LMX	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2604	Chang et al., 2020; Zhang, 2018
LMX	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2389	
Locus of Control	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12193	Stevenson, Phillips, and Anderson (2011); Lyons et al. (2015);
Managerial coaching	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Commer et al. (2017), Raza and Ahmed (2020)
Meaning in life or purpose in life				x		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012536	+ 1MA: Winger 2016 + 5 SRs: Allart 2013; Peter 2012; Van Kessel 2013; Van Leeuwen 2012; Visser 2010) + Cross-sectional studies: e.g. Alim 2008; Bauer-Wu 2005; Blackburn 2015; Feder 2013; Lyon 2001; Owens 2003; Pietrzak 2013; Schaefer 2013; Smith 2009; Tsai 2015 + Longitudinal studies: e.g. Krause 2007; Tsai 2016
Mental health	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Kinman & Grant, 2011
Mentoring (giving)	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2593	Dimitrova, 2020
Moral compass (an internal belief system guiding values and ethics)				x		Wu et al., 2013	
Negative affect	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Parath et al. (2012)
Negative affect	Work			x (-ve)		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Sommer, Howell, and Hadley (2016); Green, Schaefer, MacDermid, and Weiss (2011)
Negative affect & pessimism	Work	x (-ve)				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2379	
Negative affect (less)	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2612	Porath et al., 2012
Nurturing-Parenting skills	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military: Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Openness	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Hennekam (2017), Hildenbrand et al. (2018)
Openness to experience	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons, Schweitzer and Ng (2015)
Openness/commitment to organisational change	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wanberg and Banas (2000)
Opportunities to work beyond retirement	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2599	Taneva & Arnold, 2018

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Optimism	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025613	
Optimism or positive attributional style				x		Helmreich, I., Kunstler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012529	+ 4 MAs: Helgeson 2006; Lee 2013; Prati 2009; Shand 2015 + 5 SRs: Dias 2015; Duits 1997; Peter 2012; Stewart 2011; Van Kessel 2013 + Cross-sectional studies: e.g. Martin-Krumm 2003; Sumer 2005 + Longitudinal studies: e.g. Ahmad 2010; Carver 2010; Fresco 2006; Grote 2007; Kivimäki 2005; Myhren 2010; Segovia Jung and Yoon (2015)
Organisational citizenship behaviour	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-953. https://doi.org/10.1111/apps.12191	
Organisational citizenship behaviour	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2399	Kabat-Farr & Cortina, 2017; Marchiondo et al., 2018
Organisational commitment	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2625	Walumbwa et al., 2018
Organisational commitment	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-953. https://doi.org/10.1111/apps.12191	Youssef & Luthans (2007); Larson & Luthans (2006)
Organisational risk-taking culture	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025608	
Organizational justice	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Deng (2015), Bensemmane et al. (2018)
Paradoxical leader behaviour	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Liu et al. (2019), Yang et al. (2021)
Past successes				x		Connor & Davidson, 2003	
Perceived employability	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2622	Hennekam, 2017
Perceived interactional justice	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025619	
Perceived organisational support	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2390	
Perceived organisational support	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025618	
Perceived organisational support	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Abid et al., 2016
Perceived organizational support	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Collins (2014), Abid et al. (2015), Gao D. (2017), Shen et al. (2018)
Perceived positive organisational social context	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-953. https://doi.org/10.1111/apps.12191	Meneghel, Borgogni, Miraglia, Salanova, and Martínez (2016a); Malik and Garg (2017)
Perceived procedural justice	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025620	
Perceived stress (incl. Work stress, Hindrance stress, Role ambiguity, Role overload, Time pressure)	Work	x (-ve)				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2360	
Perception of job deprivation	Work	x (-ve)				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Ren et al., 2015

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Perception of positive organisational context	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12202	Kuntz, Connell, and Näswall (2017); Peters & Pearce, 2012; Kidd and Smewing (2001) (no relationship); Meneghel, Borgogni, Miraglia, Salanova, and Martínez (2016a)
Perception of psychological contract with employer	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Cho, Park, and Dahlggaard-Park (2017)
Personality dimensions	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Hennekam, 2017; Porath et al., 2012; Walumbwa et al., 2018
Personality traits and cultural value orientations: Conscientiousness	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei and Taormina (2014) and Lyons, Schweitzer, and Ng (2015)
Personality traits and cultural value orientations: cultural collectivism	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Welbourne, Gangadharan, and Sariol (2015); Wei and Taormina (2014)
Personality traits and cultural value orientations: Emotional stability	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons et al., 2015
Personality traits and cultural value orientations: Future-orientation	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei and Taormina (2014)
Personality traits and cultural value orientations: Openness to experience	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons et al., 2015
Personality traits and cultural value orientations: Worry	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei and Taormina (2014)
Physical exercisefitness				x		Southwick & Charney, 2018; Ungar (personal communication, 2019); Wu et al., 2019)	Wu et al., 2013
Physical fitness	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Political astuteness	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2586	Cullen et al., 2018
Positive affect	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Porath et al. (2012)
Positive affect	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Positive affect & happiness at work	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2378	
Positive affect/emotions	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12200	Sommer, Howell, and Hadley (2016); Cameron and Brownie (2010); Green, Schaefer, MacDermid, and Weiss (2011); Malik and Garg (2017)
Positive attitudes toward self-development (incl. Career adaptability, Self-development, Career development initiative, Feedback seeking behavior)	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2396	
Positive command climate incl. leadership	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Positive coping	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Positive Emotions or Positive Affect				x		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012533	1MA; Lee 2013 • 2 SRs: Van Kessel 2013; Van Leeuwen 2012 • Cross-sectional studies: e.g. Cohen 2006; Gloria 2016; Ong 2006 • Longitudinal studies: e.g. Fredrickson 2003; Geschwind 2010; Quale 2010; Strand

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Positive meaning	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Niessen et al. (2012), Prem et al. (2017)
Positive thinking (Optimism/Positive outlook/reframing)	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Post-traumatic growth	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 63(3), 313–353. https://doi.org/10.1111/apps.12191	Ogrińska-Bulik & Kobylarczyk, 2015
Proactive personality	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Jiang (2017), Albi et al. (2020)
Proactive personality, personal initiative and exploratoin	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9–10), 973–999. https://doi.org/10.1002/job.2377	
Professional identity	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197–213. https://doi.org/10.1002/job.2621	Bensemmane et al., 2018; Conway & Foskey, 2015
Prosocial motivation	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Ghulam et al. (2018)
Psychological capital	Work		x			Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78–103.	
Psychological capital	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072. https://doi.org/10.3389/fpsyg.2021.659072	Ted et al. (2013), Paterson et al. (2014), Chen et al. (2016), Levy (2016), Shen et al. (2018)
Psychological capital (incl. Self-efficacy, Hope, Optimism, Resilience, plus Overall)	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9–10), 973–999. https://doi.org/10.1002/job.2375	
Psychological distress (less)	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197–213. https://doi.org/10.1002/job.2613	Jo et al., 2020; Porath et al., 2012; Walumbwa et al., 2018
Psychological health	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197–213. https://doi.org/10.1002/job.2609	Jo et al., 2020; Porath et al., 2012; Walumbwa et al., 2018
Psychological safety	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Kark and Carmeli (2010), Xu et al. (2017), Jiang et al. (2019)
Psychological safety	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197–213. https://doi.org/10.1002/job.2606	Xu et al., 2017
Realism and self-knowledge	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wrenn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Recognition	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197–213. https://doi.org/10.1002/job.2597	Silen et al., 2019; Yang et al., 2021; Kim & Beehr, 2020; Jiang, Hu, et al., 2019; Zhang et al., 2021
Relational resources	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Niessen et al. (2012)
Religiosity or spirituality or religious coping (e.g., frequent religious attendance)				x		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012532	• 7 MAs: Ano 2005; Helgeson 2006; McIntosh 2012; Moskowitz 2009; Prati 2009; Salsman 2015; Shand 2015 • 7 SRs: Björklöf 2013; Guardino 2013; McCann 2013; Peter 2012; Senra 2015; Stewart 2011; Visser 2010 • Cross-sectional studies: e.g. Cruz 2016; Tsai 2015 • Longitudinal studies: e.g. Hebert 2007; Kasen 2014; Koenig
Resilience	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117–143. https://doi.org/10.1504/IJBIR.2020.10025614	
Resilient role models				x		Southwick & Charney, 2018	
Rights and responsibilities (rights are respected, social justice in your life)				x		Ungar (personal communication, 2019)	

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Role clarity	Work	✖				Nekooue, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025596	
Routines and rituals/Structure in your life				✖		Masten & Barnes, 2018; Ungar, 2019	
Safe, supportive environment	Work	✖				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2633	Frazier & Tupper, 2018
Self-directed	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons et al. (2015)
Self-efficacy	Work	✖				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Gau D. (2017). Bensemmame et al. (2018), Zhu et al. (2019)
Self-efficacy	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Guo et al., 2017; Lyons et al., 2015
Self-efficacy				✖		Helreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews (Issue 2)</i> . John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012528	+ 2 MAs: Jackson 2014; Lee 2013 + 9 SRs: Allart 2013; Dias 2015; Korpershoek 2011; Luszczynska 2009; Morris 2013; Peter 2012; Stewart 2011; Van Kessel 2013; Van Leeuwen 2012 + Cross-sectional studies: e.g. Barry 2003; Northouse 2002; Orengo 2001; Schwarzer 2008; Wright 2008 + Longitudinal studies: e.g. DeFlood-Cassini 2010; Guest 2015; Hartley
Self-efficacy	Work	✖				Nekooue, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025611	
Self-esteem				✖		Helreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews (Issue 2)</i> . John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012535	+ 1MA; Lee 2013 + 4 SRs: Allart 2013; Peter 2012; Stewart 2011; Van Leeuwen 2012 + Cross-sectional studies: e.g. Besser 2014; Fernández-Lansac 2012; Hayter 2014 + Longitudinal studies: e.g. Bookwala Kinman and Grant (2011)
Self-reflection & reflective communication	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	
Sense of calling or spirituality	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Ablett & Jones, 2007; Meek et al., 2003
Sense of coherence				✖		Helreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews (Issue 2)</i> . John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012537	+ 1MA; Winger 2016 + 7 SRs: Allart 2013; Bjørkløf 2013; Eriksson 2006; Peter 2012; Pragadpol 2013; Van Kessel 2013; Van Leeuwen 2012 + Cross-sectional studies: e.g. Al-Yagon 2009; Cohen 2003; Forstmeier 2009 + Longitudinal studies: e.g. Frommberger 1999; Schnyder 2008
Sense of purpose or meaning/professional mission	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12196	e.g., Cameron & Brownie, 2010; Stevenson et al., 2011; Zunz, 1998; Corner et al. (2017)
Servant leadership	Work	✖				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Luo (2016), Walumbwa et al. (2018)
Servant leadership	Work	✖				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Kumar et al., 2017; Walumbwa et al., 2018
Servant/Service leadership	Work	✖				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2600	Wang et al., 2019; Xu & Wang, 2020
Sharing responsibilities at work	Work			✖		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Burns, Poikkeus, & Aro, 2013
Social functioning	Work	✖				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Zhang et al. (2020)
Social support	Work	✖				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2590	Conway & Foskey, 2015; Bensemmame et al., 2018; Wu et al., 2018; Zhai et al., 2017; Kabat-Farr & Cortina, 2017

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Social support				x		Helmreich, I., Kunsler, A., Chmitorz, A., Konig, J., Binder, H., Wessa, M., & Lieb, K. (2017). Psychological interventions for resilience enhancement in adults (Protocol). In <i>Cochrane Database of Systematic Reviews</i> (Issue 2). John Wiley & Sons, Ltd. https://doi.org/10.1002/14651858.CD012530	• 4 MAs: Lee 2013; Ozer 2003; Prati 2009; Shand 2015 • 11 SRs: Allart 2013; Casale 2013; Dias 2015; Duits 1997; McCann 2013; Morris 2013; Paterson 2013; Pragadpol 2013;
Social support and feedback	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12201	e.g., Förster & Ducheck, 2017; Kuntz, Connell, & Näswall, 2017; McDonald, Jackson, Vickers, & Wilkes, 2016; Burns, Poikkeus, & Aro, 2013; Lamb & Cogan, 2016; Cameron & Brownie, 2010; Todt et al. (2018); Jensen et al.
social support perception	Work	x				Nekoee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025603	
Subjective health	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2392	Ryan & Fredrick (1997); Ettner & Grzywacz, 2001; Porath et al., 2012; Walumbwa et al., 2018; Zautra, Johnson, & Davis, 2005
Supervisor support	Work					n/a	Huo, M. L., & Jiang, Z. (2021). Trait conscientiousness, thriving at work, career satisfaction and job satisfaction: Can supervisor support make a difference? <i>Personality and Individual Differences</i> , 183(June), 111116. https://doi.org/10.1016/j.paid.2021.111111
Supervisor support	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Zhai et al., 2017
Supervisor supportive climate	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. D. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Paterson et al., 2014
Support from supervisor	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Kuntz, Connell, and Näswall (2017); Peters & Pearce, 2012; Kidd and Smewing (2001) (no relationship)
Support to and from others	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wienn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	
Supportive climate	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Ted et al. (2013), Paterson et al. (2014)
Supportive coworker behaviour (including Interpersonal citizenship behavior (task focused), Employee helping behavior, Sense of belonging, Coworker support, Relational resources)	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2383	Panagiotis, G., Panagiota, K. and Eugenia, P. (2013). "The mediating role of belongingness in the relationship between workplace incivility and thriving". <i>International Journal of Employment Studies</i> , Vol. 21 No. 2, pp. 63-78.
Supportive leadership behaviour (incl. Servant leadership, Family-supportive behavior, Managerial support)	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2386	
Taking charge	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Xu et al. (2020)
Taking charge	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2619	Niessen et al., 2017
Task focus	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Niessen et al. (2012), Ted et al. (2013), Paterson et al. (2014), Sia and Duari (2018)
Task performance (incl. Task mastery, In-role performance, Unit-level performance, Meeting expectations)	Work		x			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2398	Frazier & Tupper, 2016; Gerbasi et al., 2015; Novaes et al., 2017; Shan, 2016; Taneva & Arnold, 2018; Walumbwa et al., 2018
Team-level climate of involvement	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2579	Wallace et al., 2016
Teamwork within unit	Army			x		Meredith, L. S., Sherbourne, C. D., Gaillot, S. J., Hansell, L., Ritschard, H. V., Parker, A. M., & Wienn, G. (2011). <i>Promoting Psychological Resilience in the U. S. Military Factors That Promote Resilience: Findings from the Literature Review</i> (Vol. 1, Issue 2). RAND Corporation.	

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Training opportunities	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2596	Silen et al., 2019; Yang et al., 2021; Kim & Beehr, 2020; Jiang, Hu, et al., 2019; Zhang et al., 2020
Trait mindfulness				x		Wu et al., 2013	
Transformational leadership	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Collins (2014), Huang (2017), Niessen et al. (2017), Dong (2018), Hildenbrand et al. (2018)
Transformational leadership	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2603	Hildenbrand et al., 2018; Shahid et al., 2020; Niessen et al., 2017
Transformational leadership	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Sommer et al. (2016); Harland, Harrison, Jones, and Reiter-Palmon (2005)
Transformational leadership	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2388	
Trust	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Carmeli and Spreitzer (2009), Koçak (2016), Li (2018), Xu et al. (2020)
Trust & Civility	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2592	Elahi et al., 2019; Gkorezis et al., 2013
Trust & Respect	Work	x				Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2574	Silen et al., 2019; Travis et al., 2014
Trust (incl. Trust to supervisor, Trust to colleagues, Trust to management, Psychological safety)	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2391	
Turnover intention	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2632	Dimitrova, 2020 (deduced from Reference section, as citation in text - Chang et al 2020 does not include turnover intention)
Turnover intention	Work		x (-ve)			Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2397	Zhao et al., 2018; Anjum et al., 2016; Ren et al., 2015
Values-driven	Work			x (-ve)		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Lyons et al. (2015)
Wide information sharing	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025606	
Work control	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Li (2018), Wang (2018)
Work engagement	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2624	Ren et al., 2015
Work engagement	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Mache et al. (2014)
Work family enrichment	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Na (2017), Russo et al. (2018)
Work happiness	Work				x	Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Youssef & Luthans, 2007
Work-family enrichment	Work		x			Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. <i>Journal of Organizational Behavior</i> , 43(2), 197-213. https://doi.org/10.1002/job.2611	Russo et al., 2018
Work-home enrichment	Work	x				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Carmel and Russo, 2016
Working in a group or team	Work	x				Nekooee, N., Isfahani, A. N., Abzari, M., & Teimouri, H. (2020). Exploring Antecedents and Mediators of Thriving at Work: A Mixed-Method Approach. <i>International Journal of Business Innovation and Research</i> , 25(1), 117-143. https://doi.org/10.1504/IJBIR.2020.10025607	

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Factor	Context	Thriving at work		Resilience at work		Review Source	Original Source(s)
		Antecedent	Outcome	Antecedent	Outcome		
Work-Life balance	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12194	Jensen et al., 2008; Meek et al., 2003
Workplace civility	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Ghulam et al. (2018)
Workplace civility	Work	x				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2384	
Workplace friendship	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Chen et al. (2016)
Workplace incivility	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Panagiotis et al. (2013)
Workplace incivility incl. incivility history	Work	x (-ve)				Kleine, A. K., Rudolph, C. W., & Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> , 40(9-10), 973-999. https://doi.org/10.1002/job.2385	
Workplace violence	Work	x				Liu, D., Zhang, S., Wang, Y., & Yan, Y. (2021). The Antecedents of Thriving at Work: A Meta-Analytic Review. <i>Frontiers in Psychology</i> , 12, 659072.	Zhao et al. (2016)
Workplace violence	Work	x (-ve)				Shahid, S., Muchiri, M. K., & Walumbwa, F. O. (2021). Mapping the antecedents and consequences of thriving at work: A review and proposed research agenda. <i>International Journal of Organizational Analysis</i> , 29(1), 78-103.	Zhao et al., 2018
Worry	Work			x		Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. <i>Applied Psychology</i> , 69(3), 913-959. https://doi.org/10.1111/apps.12191	Wei & Taormina (2014)

Appendix E

Mann-Whitney U Test to Compare Medians for Samples in Study 1

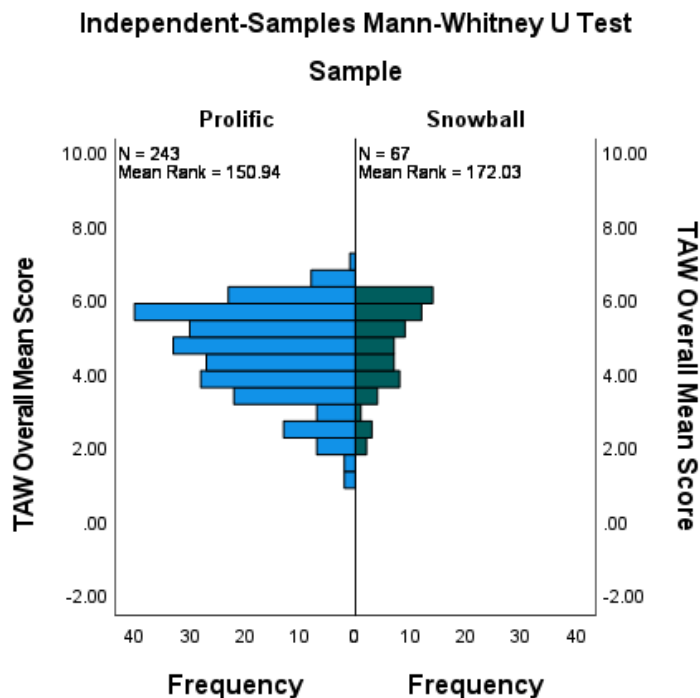
Appendix Table E.1 Mann-Whitney U Test Hypothesis Test Summary

	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The distribution of Thriving at Work (TAW) is the same across categories of Sample.	Independent-Samples Mann-Whitney U Test	.088	Retain the null hypothesis.
2	The distribution of Resilience (BRS) is the same across categories of Sample.	Independent-Samples Mann-Whitney U Test	.678	Retain the null hypothesis.
3	The distribution of ONS Satisfaction with Life is the same across categories of Sample.	Independent-Samples Mann-Whitney U Test	.058	Retain the null hypothesis.
4	The distribution of ONS Life is Worthwhile is the same across categories of Sample.	Independent-Samples Mann-Whitney U Test	.179	Retain the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

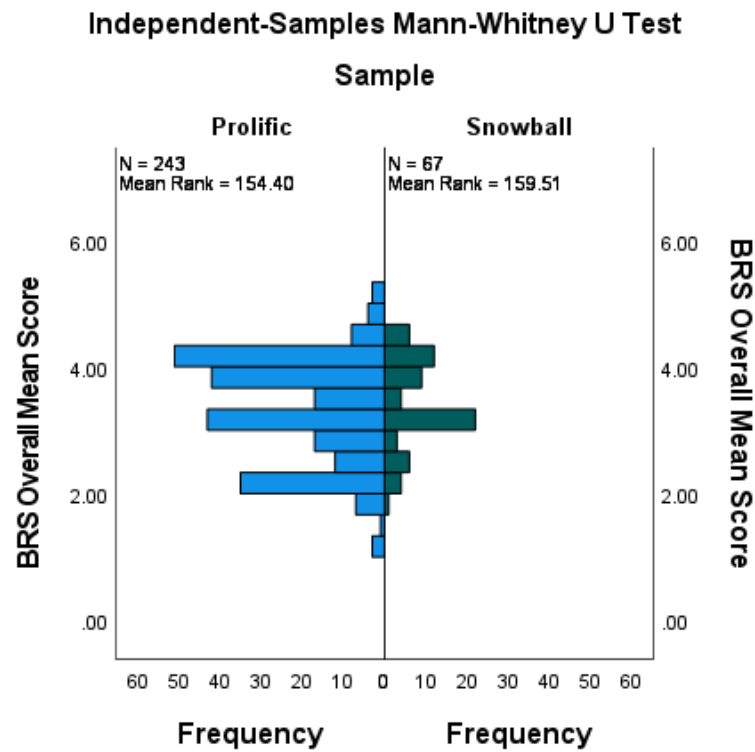
E.1 Thriving at Work (TAW) Mann-Whitney U Test

Total N	310
Mann-Whitney U	9248.000
Wilcoxon W	11526.000
Test Statistic	9248.000
Standard Error	649.356
Standardized Test Statistic	1.706
Asymptotic Sig.(2-sided test)	.088



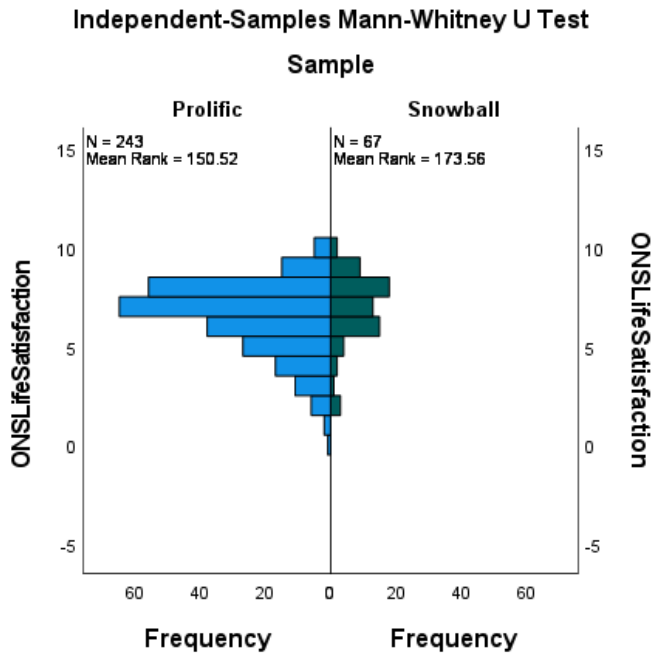
E.2 Brief Resilience Scale Mann-Whitney U Test Summary

Total N	310
Mann-Whitney U	8409.000
Wilcoxon W	10687.000
Test Statistic	8409.000
Standard Error	647.476
Standardized Test Statistic	.415
Asymptotic Sig.(2-sided test)	.678



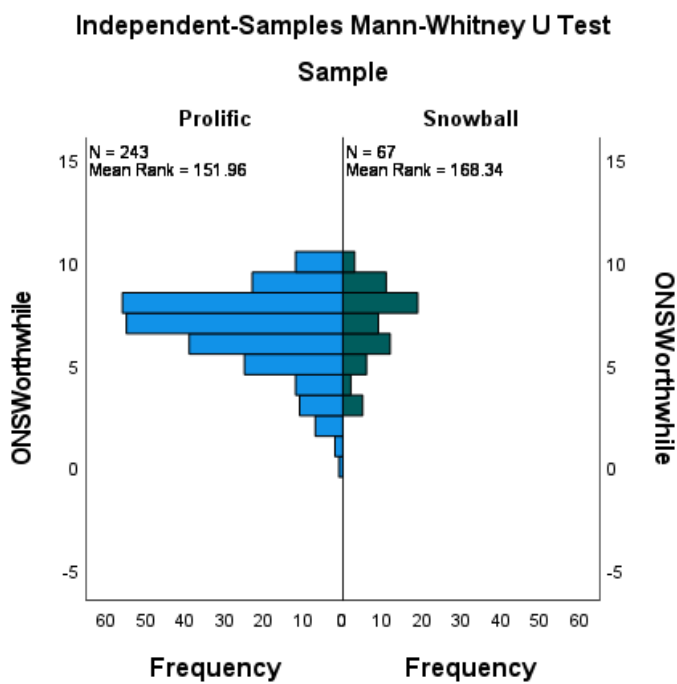
E.3 ONS Life Satisfaction Mann-Whitney U Test Summary

Total N	310
Mann-Whitney U	9350.500
Wilcoxon W	11628.500
Test Statistic	9350.500
Standard Error	637.675
Standardized Test Statistic	1.898
Asymptotic Sig.(2-sided test)	.058



E.4 ONS Life is Worthwhile Mann-Whitney U Test Summary

Total N	310
Mann-Whitney U	9000.500
Wilcoxon W	11278.500
Test Statistic	9000.500
Standard Error	639.733
Standardized Test Statistic	1.344
Asymptotic Sig.(2-sided test)	.179



Appendix F
Measures Considered for Resilience at Work

Authors	Scale Name	# Items	Validation	Underlying Conceptualisation and Focus			Examples of Usage in Research on Resilience in the Workplace
				Rationale	Focus	Context	
Noe et al. (1990)	Career Resilience (subscale of career motivation)	13	Construct (ConV; DisV)	career resilience as work-related ability	adaption to and coping with changing or negative work situations	specific for work careers	
Wagnild and Young (1993)	Resilience Scale (RS)	25	Construct (EFA) Criterion (PredV)	resilience as stable, positive personal characteristic	(1) personal competence; (2) acceptance of self and life	no work focus	Parker et al. (2015) Rice and Liu (2016) (14 items) Sommer et al. (2016) (17 items)
London (1993)	Career Resilience (subscale of career motivation)	7	Construct (EFA)	career resilience as a trait-like characteristic	maintenance or persistence in career with focus on feelings and attitudes	specific for work careers	
Carson and Bedeian (1994)	Career Resilience (subscale of career commitment scale)	4	Construct (EFA; ConV; DisV) Criterion (PredV)	career resilience as work-related ability	maintenance or persistence in career with focus on attitudes and behaviours	specific for work careers	Carless and Bernath (2007) Green et al. (2011) Lyons et al. (2015) Shin et al. (2012)
Block and Kremen (1996)	Ego-Resiliency Scale (ER89)	14	Construct (ConV; DisV)	resilience as a generalised, characterological individual quality	ability to change from and also return to the individual's characteristics level of ego-control	no work focus	van Erp et al. (2015) (4 items) Youssef and Luthans (2007)
Grzeda and Prince (1997)	Career Resilience (subscale of career motivation)	14	Construct (EFA; ConV; DisV)	career resilience as work-related ability	maintenance or persistence in career with focus on feelings, attitudes and behaviours	specific for work careers	
Gowan et al. (2000)	Career Resilience [based on Waterman Jr, Waterman, & Collard, (1994)]	8	Not validated	career resilience as a personal quality	(1) flexibility; (2) creativeness; (3) self-reliance; (4) ambition; (5) desire to learn new things; (6) future career plans; (7) confidence; (8) career ownership	specific for work careers	

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Authors	Scale Name	# Items	Validation	Underlying Conceptualisation and Focus			Examples of Usage in Research on Resilience in the Workplace
				Rationale	Focus	Context	
Lounsbury and Gibson (2000)	Emotional Resilience	15	Construct (ConV; DisV) Criterion (PredV; IncrV)	emotional resilience as personality trait (conceptualised as the inverse of neuroticism)	overall level of adjustment	work focus, but items not specific for work contexts	Lounsbury et al. (2003) (6 items) Lounsbury et al. (2007)
Wanberg and Banas (2000)		19	Usage of validated scales	personal resilience as personal characteristic	(1) self-esteem; (2) perceived control; (3) optimism	no work focus	
Reivich and Shatté (2002)	Resilience Factor Inventory (RFI)	60	Construct (EFA; CFA) Criterion (PredV)	resilience as malleable personal state	(1) emotion regulation; (2) impulse control; (3) causal analysis; (4) self-efficacy; (5) realistic optimism; (6) empathy; (7) reaching out	specific for work contexts	Harker et al. (2016)
Connor and Davidson (2003)	Connor-Davidson Resilience Scale (CD-RISC)	25	Construct (EFA; ConV; DisV)	resilience as modifiable ability	(1) personal competence, high standards, and tenacity; (2) trust in one's instincts, tolerance of negative affect, and strengthening effects of stress; (3) positive acceptance of change, and secure relationships; (4) control; (5) spiritual influences	no work focus	Gabriel et al. (2011) Guo et al. (2017) Hudgins (2016)
Sinclair and Wallston (2004)	Brief Resilient Coping Scale (BRCS)	4	Construct (EFA; ConV; DisV) Criterion (PredV)	resilience as positive coping behaviour	active coping and growth	no work focus	Bullough et al. (2014) Mache et al. (2014) Shoss et al. (2018)
Ferris et al. (2005)	Personal Resilience	6	Not validated	resilience as capacity for successful adaptation	(1) nutrition; (2) physical activity; (3) leisure time; (4) personal relationships; (5) social networks; (6) commitment to change	no work focus	

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Authors	Scale Name	# Items	Validation	Underlying Conceptualisation and Focus			Examples of Usage in Research on Resilience in the Workplace
				Rationale	Focus	Context	
Ferris et al. (2005)	Job Resilience	9	Not validated	job resilience as the perception of job conditions	(1) supervisor relationships; (2) peer relationships; (3) career opportunities; (4) company support; (5) rewards; (6) job definition; (7) physical environment; (8) decision making/control; (9) job security	specific for work contexts	
Harland et al. (2005)		4	Construct (EFA)	resilience as the degree to which a person grows and develops as a result of challenging experience	learning and growth outcome orientation	no work focus	
Luthans et al. (2007b)	Resilience Scale [sub-scale of the PsyCap questionnaire; adapted from Wagnild and Young (1993)]	6	Validated in Luthans et al. (2007a) Construct (CFA; ConV; DisV) Criterion (PredV)	resilience as malleable, positive psychological state	handling challenges at work and recovery from them	specific for work contexts	Jung and Yoon (2015) (4 items) Martinez-Corts et al. (2015) (3 items) Verleysen et al. (2015) (3 items)
Oginska-Bulik and Juczynski (2008)	Resiliency Assessment Scale	25	Construct (CFA; ConV; DisV)	resiliency as a personal trait, which promotes coping	(1) determination and persistence in actions; (2) openness to new experiences and a sense of humour; (3) competencies to cope and tolerance of a negative affect; (4) tolerance of failures and treating life as a challenge; (5) optimistic life attitude and ability to mobilise in difficult situations	no work focus	
Smith et al. (2008)	Brief Resilience Scale (BRS)	6	Construct (EFA, ConV) Criterion (PredV)	resilience as a person ability to bounce back or recover from stress	bouncing back from setbacks and recovery from them	no work focus	Crane and Searle (2016) Shoss et al. (2018)
Li et al. (2012)		6	Construct (CFA; DisV)	emotional resilience as recovery from negative emotions	quick recovery from negative and chaotic emotions	no work focus	

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Authors	Scale Name	# Items	Validation	Underlying Conceptualisation and Focus			Examples of Usage in Research on Resilience in the Workplace
				Rationale	Focus	Context	
Lee et al. (2013)	Intrapersonal Resilience	58	Usage of validated scales	intrapersonal resilience as personality trait	(1) agreeableness; (2) conscientiousness; (3) extraversion; (4) emotional stability; (5) positive affect; (6) mastery	no work focus	
Lee et al. (2013)	Interpersonal Resilience [based on Sherbourne and Stewart (1991)]	59	Usage of validated scales	interpersonal resilience as various forms of social support	(1) affectionate support; (2) emotional/informational support; (3) positive social interaction; (4) tangible support	no work focus	
McLarnon and Rothstein (2013)	Workplace Resilience Inventory (WRI)	60	Construct (EFA; CFA) Criterion (PredV; IncrV)	workplace resilience as a skill that could be taught, practiced, and developed	(1) initial responses; (2) affective personal characteristics; (3) behavioural personal characteristics; (4) cognitive personal characteristics; (5) opportunities, supports, and resources (6) affective self-regulatory processes; (7) behavioural self-regulatory processes; (8) cognitive self-regulatory processes	specific for work contexts	
Stephens et al. (2013)	[based on Caza and Bagozzi (2010)]	5	Construct (CFA)	employee resilience as the extent to which they easily recover from negative events and regard those events as opportunities to grow and learn	handling challenges at work and recover and grow from them	specific for work contexts	De Clercq and Belausteguigoitia (2017)
Winwood et al. (2013)	Resilience at Work Scale (RAW scale)	20	Construct (EFA; CFA); Criterion (PredV)	workplace resilience as a skill that could be taught, practised, and developed	(1) living authentically, (2) finding one's calling; (3) maintaining perspective; (4) managing stress; (5) interacting cooperatively; (6) staying healthy; (7) building networks	specific for work contexts	Malik and Garg (2017)

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Authors	Scale Name	# Items	Validation	Underlying Conceptualisation and Focus			Examples of Usage in Research on Resilience in the Workplace
				Rationale	Focus	Context	
Wei and Taormina (2014)		40	Construct (ConV) Criterion (PredV)	resilience as personal quality	(1) determination; (2) endurance; (3) adaptability; (4) recuperability	no work focus	
Näswall et al. (2015)	Employee Resilience Scale (EmpRes)	9	Construct (EFA)	resilience as an adaptable employee capability, facilitated and supported by the organisation workplace resilience as individual's	employee behaviour to utilise resources to continually adapt and flourish at work	specific for work contexts	Kuntz et al. (2017)
Mallak and Yildiz (2016)	Workplace Resilience Instrument (WRI)	20	Construct (EFA; CFA; ConV)	ability to return to an original (or improved) condition after a stressful situation	(1) active problem-solving; (2) team efficacy; (3) confident sense-making; (4) bricolage	specific for work contexts	
Meneghel et al. (2016a)		9	Construct (EFA; CFA)	resilience as work-related ability	bounce back, resist illness, adapt to stress, or thrive in the face of work-related adversity emotional and psychological transition related to change,	specific for work contexts	
Braun et al. (2017)		6	Construct (EFA) Criterion (PredV)	resilience as cognitive (e.g., framing), emotional, or behavioural adjustment to stress	responding effectively to either mitigate stress caused by the change, or manage or reduce increased stress	specific for work contexts	
Todt et al. (2018)	Innovator Resilience Potential (IRP)	18	Based on validated scales Construct (CFA; ConV; DisV) Criterion (IncrV)	innovator resilience potential as innovators' predisposition to maintain their innovative performance after a setback like an innovation project termination	(1) self-efficacy; (2) outcome expectancy; (3) optimism; (4) organisation-based self-esteem; (5) hope; (6) risk propensity	specific for innovation work contexts	

Appendix G
Demographics for Study 1

Appendix Table G.1 Age for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	1	.3	.3	.3
	18-24	15	4.8	4.8	5.2
	25-34	102	32.9	32.9	38.1
	35-44	90	29.0	29.0	67.1
	45-54	61	19.7	19.7	86.8
	55-64	35	11.3	11.3	98.1
	65-74	6	1.9	1.9	100.0
	Total	310	100.0	100.0	

Appendix Table G.2 Gender for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	5	1.6	1.6	1.6
	Male	141	45.5	45.5	47.1
	Female	164	52.9	52.9	100.0
	Total	310	100.0	100.0	

Appendix Table G.3 Country for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Australia	6	1.9	1.9	1.9
	Canada	5	1.6	1.6	3.5
	Denmark	1	.3	.3	3.9
	New Zealand	7	2.3	2.3	6.1
	Pakistan	1	.3	.3	6.5
	United Arab Emirates	1	.3	.3	6.8
	United Kingdom	280	90.3	90.3	97.1
	United States of America	9	2.9	2.9	100.0
	Total	310	100.0	100.0	

Appendix Table G.4 Ethnicity for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	278	89.7	89.7	89.7
	Black/African/Caribbean	7	2.3	2.3	91.9
	Asian (Indian, Pakistani, Bangladeshi, Chinese, any other Asian background)	17	5.5	5.5	97.4
	Mixed two or more ethnic groups	4	1.3	1.3	98.7
	Prefer not to say	4	1.3	1.3	100.0
	Total	310	100.0	100.0	

Appendix Table G.5 Full Time for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	299	96.5	96.5	96.5
	No	11	3.5	3.5	100.0
	Total	310	100.0	100.0	

Appendix Table G.6 Manager for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	167	53.9	53.9	53.9
	No	143	46.1	46.1	100.0
	Total	310	100.0	100.0	

Appendix Table G.7 Job Length for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	18	5.8	5.8	5.8
	6 months to 1 year	29	9.4	9.4	15.2
	1-2 years	60	19.4	19.4	34.5
	2-3 years	46	14.8	14.8	49.4
	3-4 years	22	7.1	7.1	56.5
	4-5 years	22	7.1	7.1	63.5
	5+ years	113	36.5	36.5	100.0
	Total	310	100.0	100.0	

Appendix Table G.8 Job Stress for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all stressful	29	9.4	9.4	9.4
	Mildly stressful	122	39.4	39.4	48.7
	Moderately stressful	124	40.0	40.0	88.7
	Very stressful	30	9.7	9.7	98.4
	Extremely stressful	5	1.6	1.6	100.0
	Total	310	100.0	100.0	

Appendix Table G.9 Company Size for Study 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unknown	67	21.6	21.6	21.6
	10-49	28	9.0	9.0	30.6
	50-249	48	15.5	15.5	46.1
	250-999	42	13.5	13.5	59.7
	1000+	125	40.3	40.3	100.0
	Total	310	100.0	100.0	

Appendix H

Data Normality, Linearity and Homoscedasticity Tests for Study 1

Appendix Table H.1 Descriptives for Study 1

		Statistic	Std. Error	
Thriving at Work (TAW)	Mean	4.6018	.06866	
	95% Confidence Interval for Mean	Lower Bound	4.4667	
		Upper Bound	4.7369	
	5% Trimmed Mean	4.6507		
	Median	4.7273		
	Variance	1.461		
	Std. Deviation	1.20889		
	Minimum	1.09		
	Maximum	6.91		
	Range	5.82		
	Interquartile Range	1.84		
	Skewness	-.544	.138	
	Kurtosis	-.351	.276	
	Resilience (BRS)	Mean	3.3038	.04449
95% Confidence Interval for Mean		Lower Bound	3.2162	
		Upper Bound	3.3913	
5% Trimmed Mean		3.3196		
Median		3.5000		
Variance		.614		
Std. Deviation		.78330		
Minimum		1.17		
Maximum		5.00		
Range		3.83		
Interquartile Range		1.33		
Skewness		-.434	.138	
Kurtosis		-.447	.276	
ONS Satisfaction with Life		Mean	6.55	.105
	95% Confidence Interval for Mean	Lower Bound	6.34	
		Upper Bound	6.75	
	5% Trimmed Mean	6.64		
	Median	7.00		
	Variance	3.414		
	Std. Deviation	1.848		
	Minimum	0		
	Maximum	10		
	Range	10		
	Interquartile Range	2		
	Skewness	-.805	.138	
	Kurtosis	.551	.276	
	ONS Life is Worthwhile	Mean	6.73	.111
95% Confidence Interval for Mean		Lower Bound	6.51	
		Upper Bound	6.94	
5% Trimmed Mean		6.80		
Median		7.00		
Variance		3.805		
Std. Deviation		1.951		
Minimum		0		
Maximum		10		

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	Statistic	Std. Error
Range	10	
Interquartile Range	2	
Skewness	-.713	.138
Kurtosis	.313	.276

Appendix Table H.2 Extreme Values for Study 1

		Case Number	Unique Identifier	Value	
Thriving at Work (TAW)	Highest	1	94	VK25	6.91
		2	52	br	6.73
		3	89		6.55
		4	185		6.55
		5	53	1234	6.45
	Lowest	1	173		1.09
		2	61		1.09
		3	118		1.55
		4	69		1.73
		5	109	0257	1.91 ^a
Resilience (BRS)	Highest	1	121	TH551	5.00
		2	145	Dundee	5.00
		3	205	LMM	5.00
		4	185		4.83
		5	231	10b	4.83
	Lowest	1	173		1.17
		2	109	0257	1.17
		3	3		1.17
		4	113	DSB	1.33
		5	229		1.67 ^b
ONS Satisfaction with Life	Highest	1	89		10
		2	139	2809	10
		3	182	222	10
		4	184	Code	10
		5	208		10 ^c
	Lowest	1	173		0
		2	200	excession	1
		3	7	G14	1
		4	304	og970126	2
		5	295		2 ^d
ONS Life is Worthwhile	Highest	1	89		10
		2	94	VK25	10
		3	99	432	10
		4	139	2809	10
		5	142	250572	10 ^e
	Lowest	1	173		0
		2	69		1
		3	43		1

4	229		2
5	206	62d71d4536514f3a6fa162e8	2 ^d

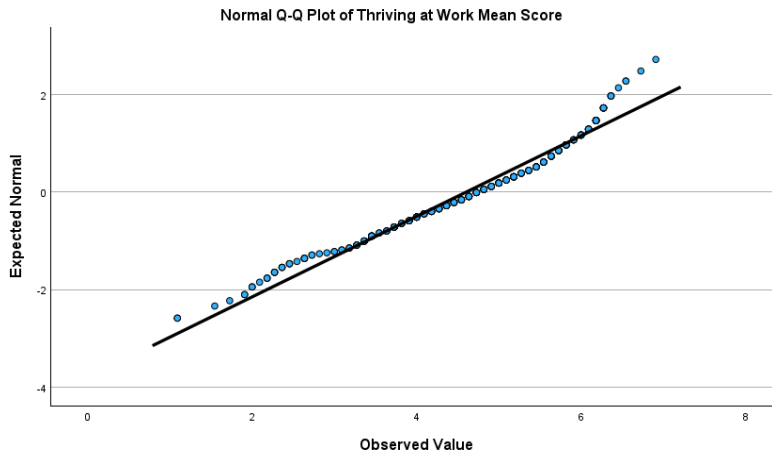
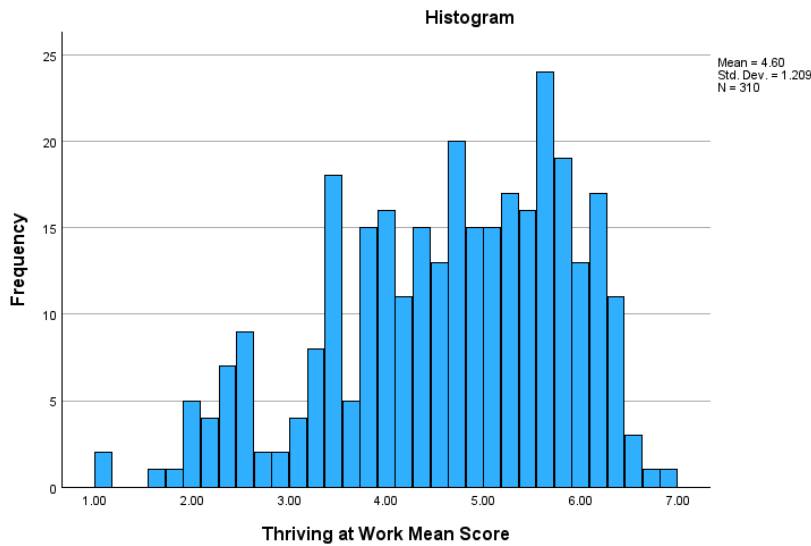
- a. Only a partial list of cases with the value 1.91 are shown in the table of lower extremes.
- b. Only a partial list of cases with the value 1.67 are shown in the table of lower extremes.
- c. Only a partial list of cases with the value 10 are shown in the table of upper extremes.
- d. Only a partial list of cases with the value 2 are shown in the table of lower extremes.

Appendix Table H.3 Tests of Normality for Study 1

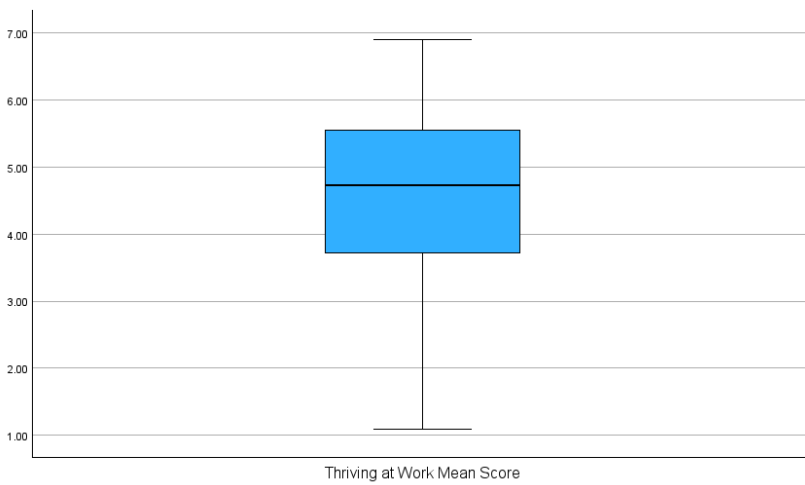
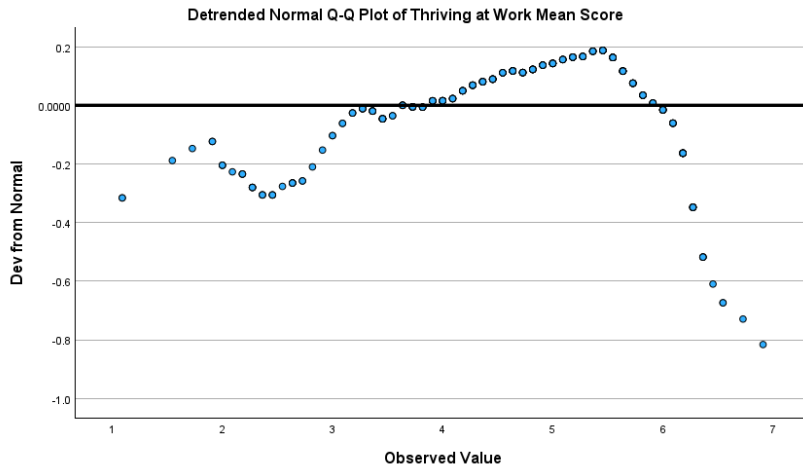
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Thriving at Work (TAW)	.078	310	<.001	.965	310	<.001
Resilience (BRS)	.114	310	<.001	.965	310	<.001
ONS Satisfaction with Life	.188	310	<.001	.931	310	<.001
ONS Life is Worthwhile	.162	310	<.001	.940	310	<.001

a. Lilliefors Significance Correction

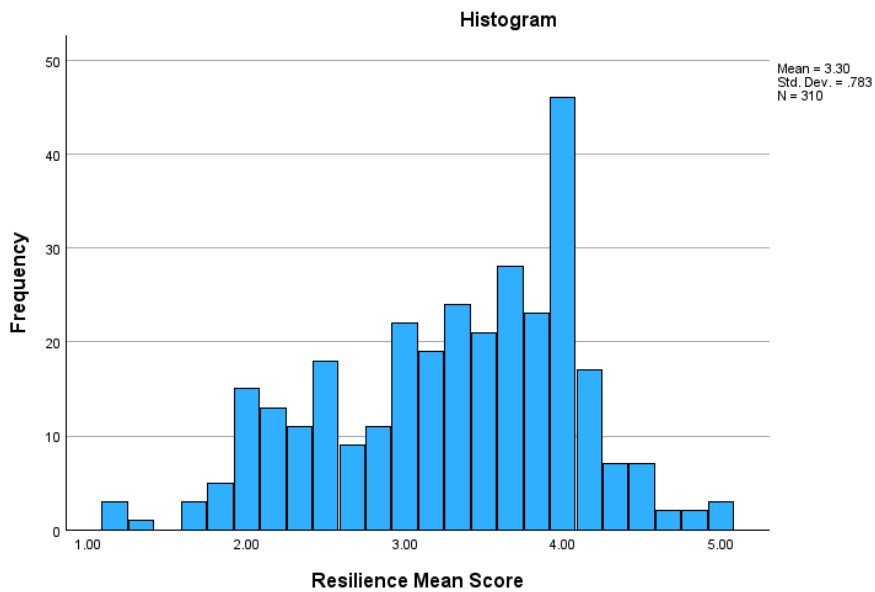
H.1 Normality Graphs for Thriving at Work for Study 1



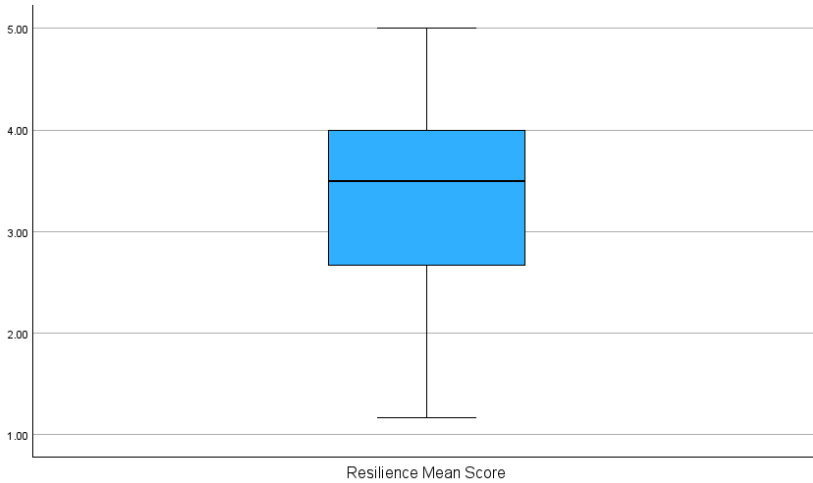
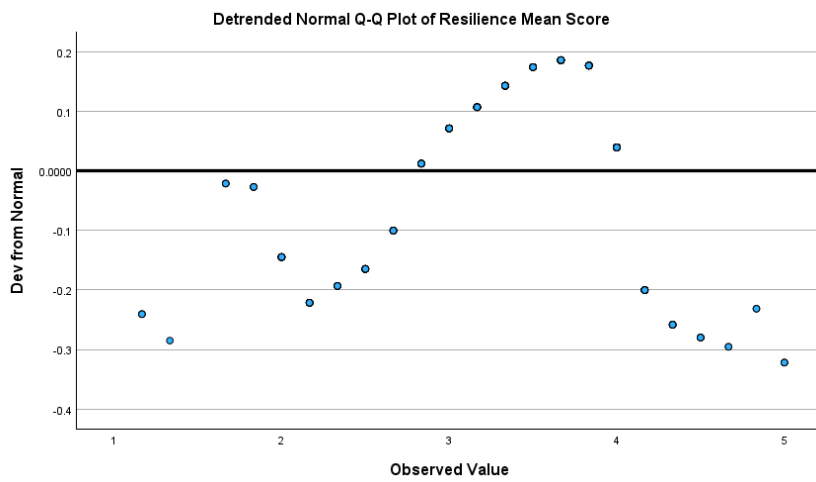
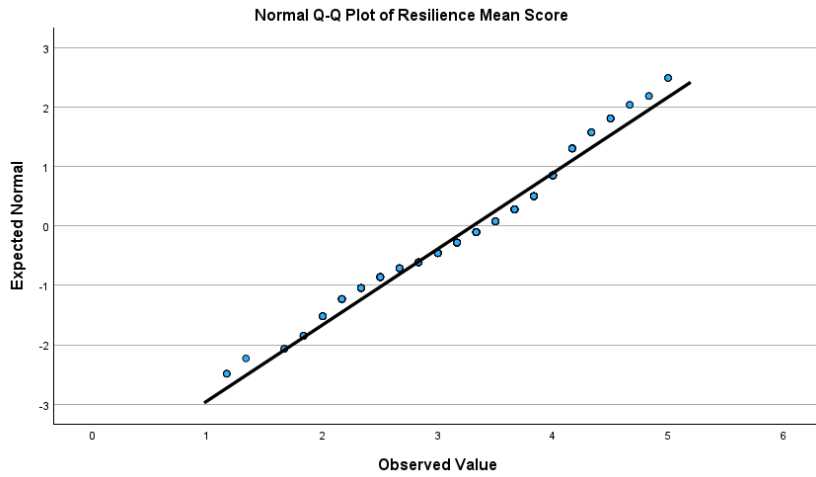
An Investigation Into the Relationship Between Resilience and Thriving at Work



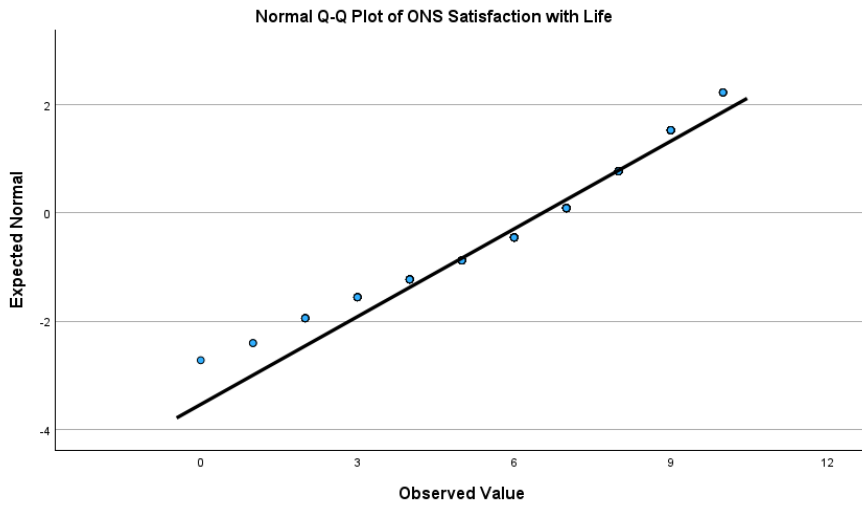
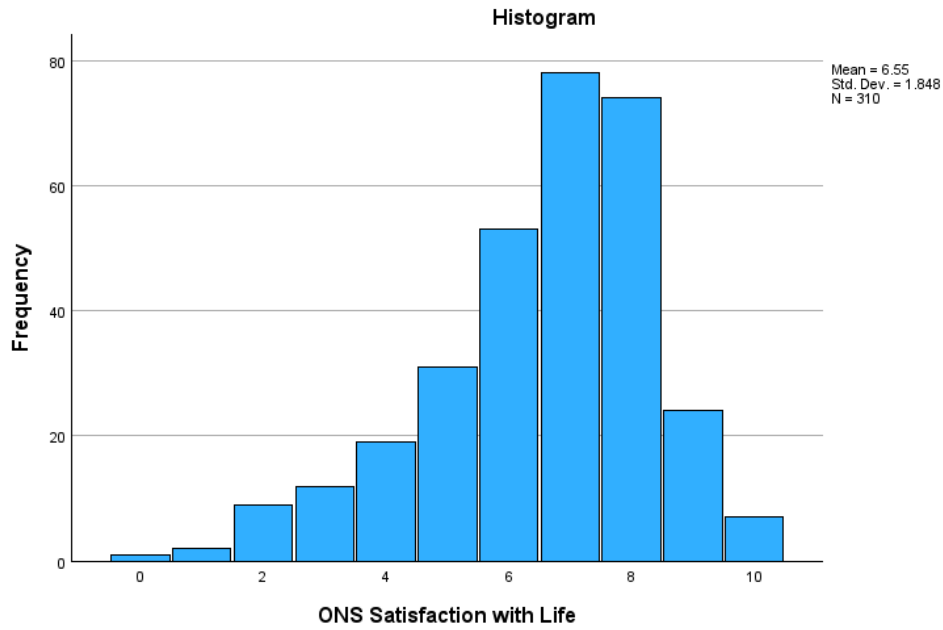
H.2 Normality Graphs for Resilience for Study 1

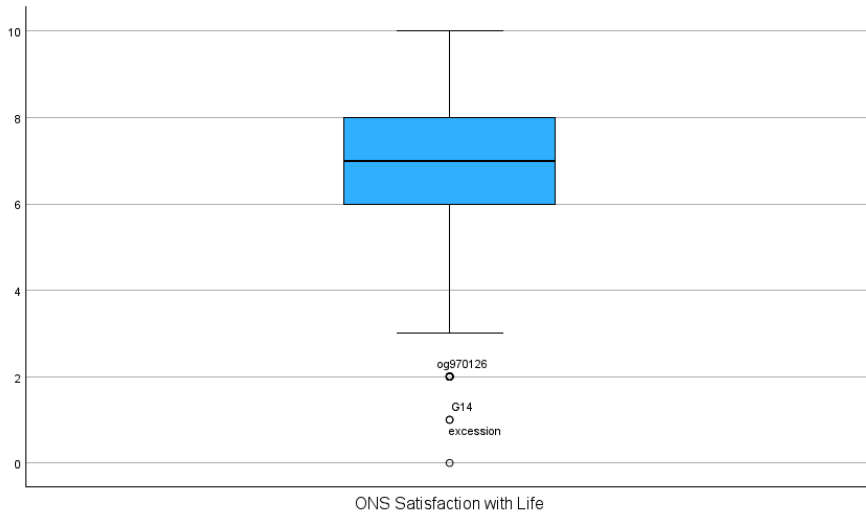


An Investigation Into the Relationship Between Resilience and Thriving at Work

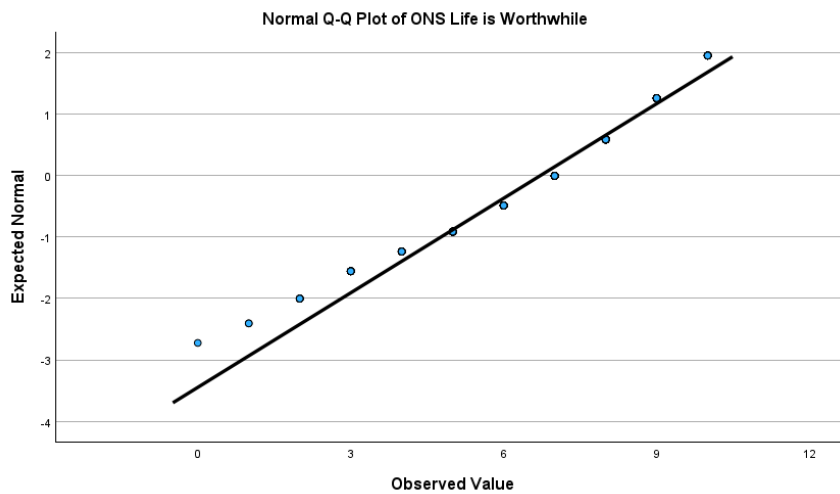
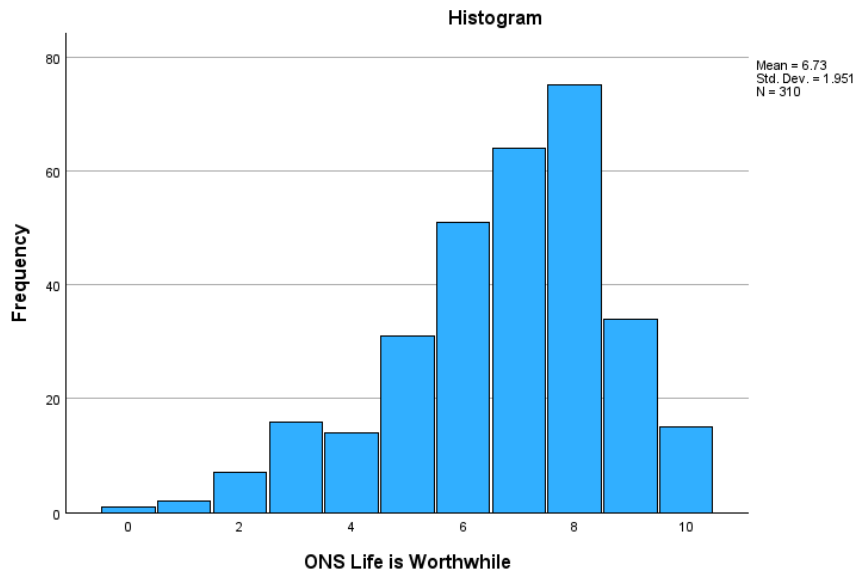


H.3 Normality Graphs for ONS Satisfaction with Life for Study 1

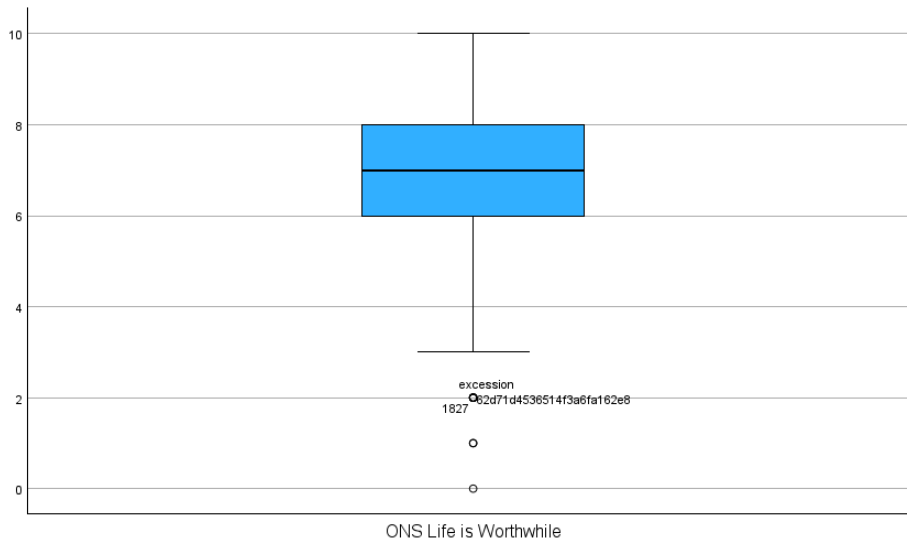
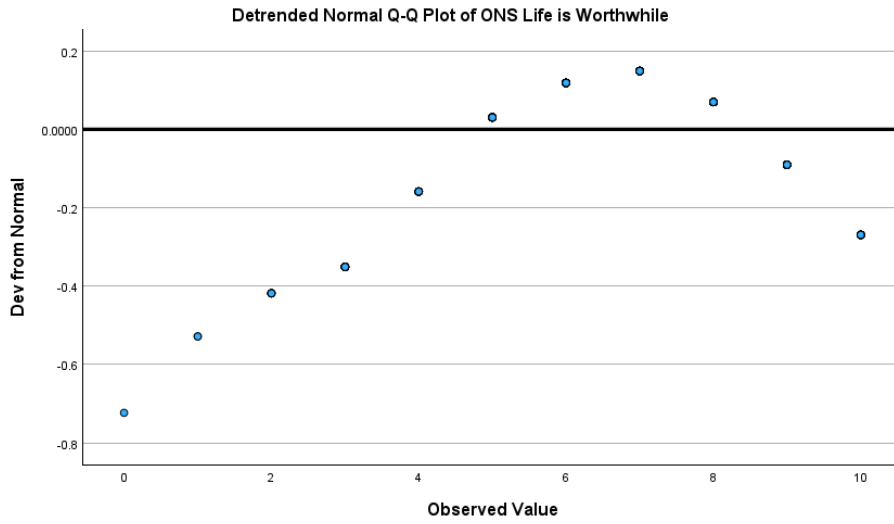




H.4 Normality Graphs for ONS Life is Worthwhile for Study 1

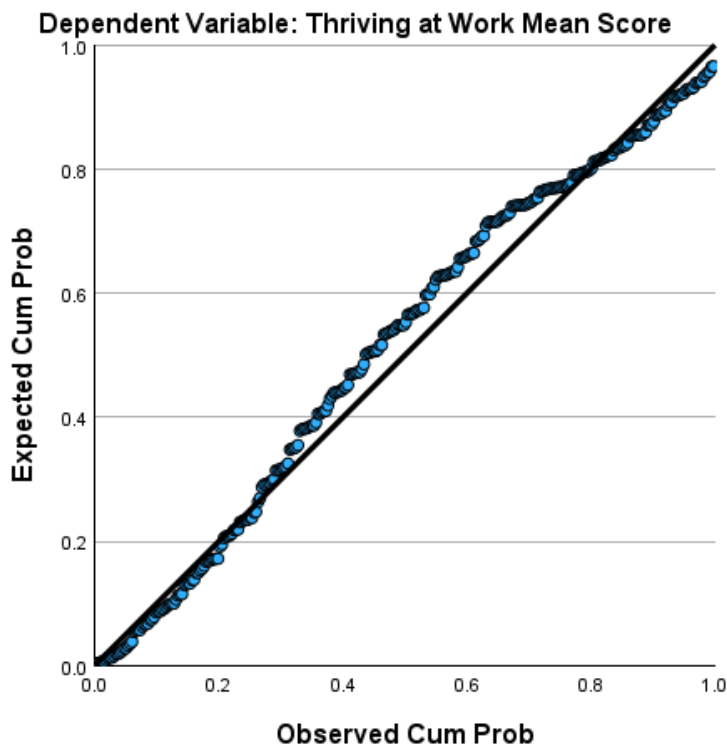


An Investigation Into the Relationship Between Resilience and Thriving at Work

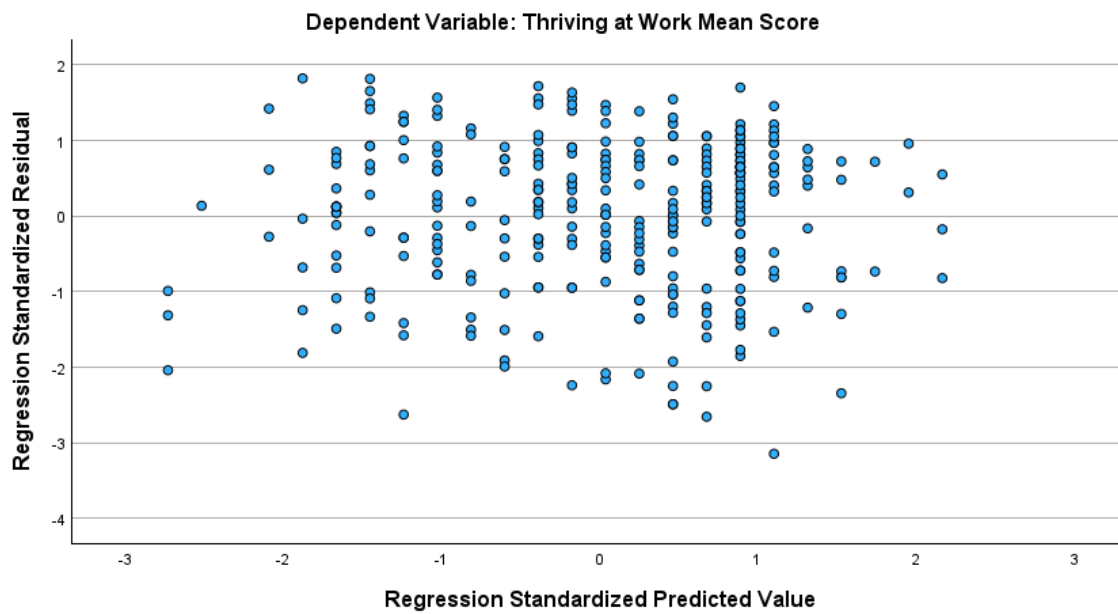


H.5 Normality, Linearity, Homoscedasticity Graphs for Thriving at Work for Study 1

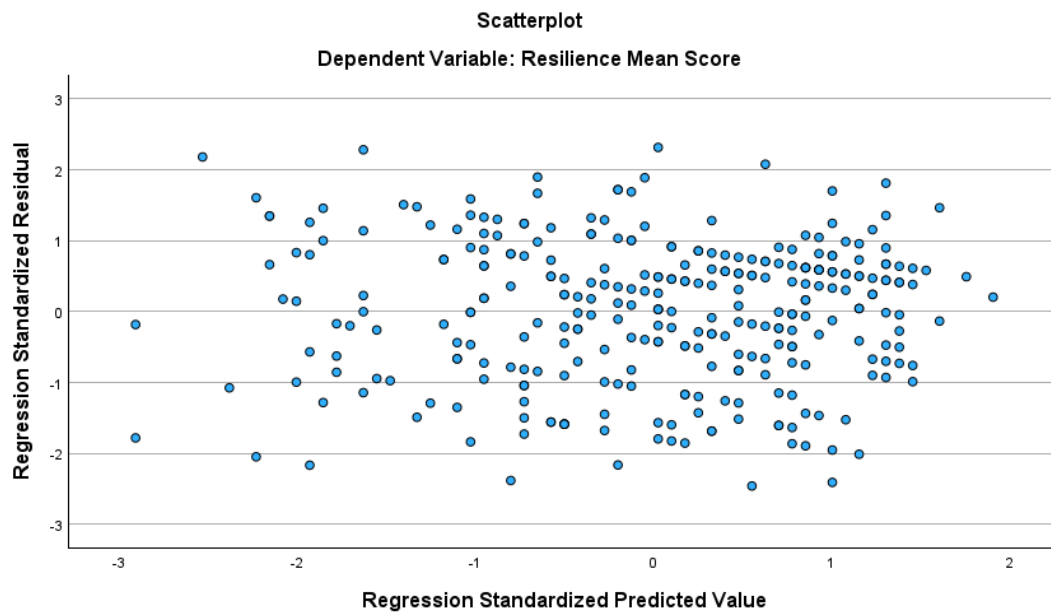
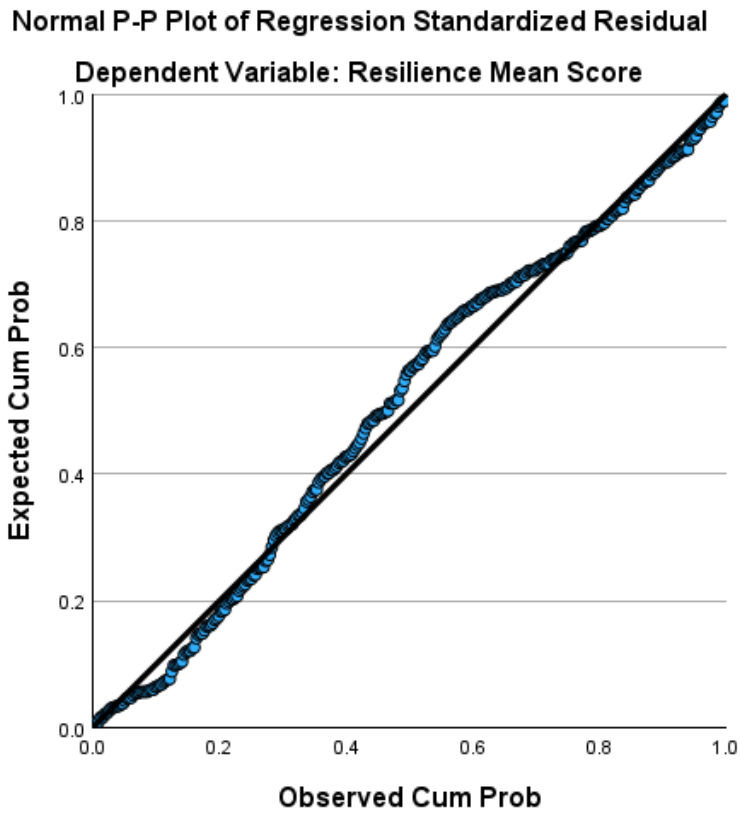
Normal P-P Plot of Regression Standardized Residual



Scatterplot



H.6 Normality, Linearity, Homoscedasticity Graphs for Resilience for Study 1



Appendix I
Demographics for Study 2

Appendix Table I.1 Age for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	1	.3	.3	.3
	18-24	21	7.3	7.3	7.6
	25-34	107	37.2	37.2	44.8
	35-44	78	27.1	27.1	71.9
	45-54	51	17.7	17.7	89.6
	55-64	22	7.6	7.6	97.2
	65-74	8	2.8	2.8	100.0
	Total	288	100.0	100.0	

Appendix Table I.2 Gender for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	1	.3	.3	.3
	Male	142	49.3	49.3	49.7
	Female	144	50.0	50.0	99.7
	Non-binary/third gender	1	.3	.3	100.0
	Total	288	100.0	100.0	

Appendix Table I.3 Ethnicity for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	256	88.9	88.9	88.9
	Black/African/Caribbean	8	2.8	2.8	91.7
	Asian (Indian, Pakistani, Bangladeshi, Chinese, any other Asian background)	14	4.9	4.9	96.5
	Mixed two or more ethnic groups	7	2.4	2.4	99.0
	Other (Arab or any others)	2	.7	.7	99.7
	Prefer not to say	1	.3	.3	100.0
	Total	288	100.0	100.0	

Appendix Table I.4 Full or Part Time for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Time	266	92.4	92.4	92.4
	Part Time	22	7.6	7.6	100.0
	Total	288	100.0	100.0	

Appendix Table I.5 Manager for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	136	47.2	47.2	47.2
	No	152	52.8	52.8	100.0
	Total	288	100.0	100.0	

Appendix Table I.6 Job Length for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	22	7.6	7.6	7.6
	6 months to 1 year	33	11.5	11.5	19.1
	1-2 years	49	17.0	17.0	36.1
	2-3 years	36	12.5	12.5	48.6
	3-4 years	26	9.0	9.0	57.6
	4-5 years	28	9.7	9.7	67.4
	5+ years	94	32.6	32.6	100.0
	Total	288	100.0	100.0	

Appendix Table I.7 Level of Job Stress for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all stressful	38	13.2	13.2	13.2
	Mildly stressful	119	41.3	41.3	54.5
	Moderately stressful	92	31.9	31.9	86.5
	Very stressful	32	11.1	11.1	97.6
	Extremely stressful	7	2.4	2.4	100.0
	Total	288	100.0	100.0	

Appendix Table I.8 Company Size for Study 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-49	38	13.2	13.2	13.2
	50-249	69	24.0	24.0	37.2
	250-999	54	18.8	18.8	55.9
	1000+	127	44.1	44.1	100.0
	Total	288	100.0	100.0	

Appendix J
Data Normality Tests for Study 2

Appendix Table J.1 Descriptives for Study 2

		Statistic	Std. Error	
Thriving at Work (TAW)	Mean	4.5445	.07401	
	95% Confidence Interval for Mean	Lower Bound	4.3988	
		Upper Bound	4.6902	
	5% Trimmed Mean	4.5931		
	Median	4.7273		
	Variance	1.578		
	Std. Deviation	1.25602		
	Minimum	1.00		
	Maximum	7.00		
	Range	6.00		
	Interquartile Range	1.73		
	Skewness	-.555	.144	
	Kurtosis	-.273	.286	
	Resilience (BRS)	Mean	3.3895	.04728
95% Confidence Interval for Mean		Lower Bound	3.2964	
		Upper Bound	3.4825	
5% Trimmed Mean		3.4015		
Median		3.5000		
Variance		.644		
Std. Deviation		.80241		
Minimum		1.00		
Maximum		5.00		
Range		4.00		
Interquartile Range		1.17		
Skewness		-.345	.144	
Kurtosis		-.242	.286	
Work Engagement (UWES)		Mean	3.3279	.07775
	95% Confidence Interval for Mean	Lower Bound	3.1749	
		Upper Bound	3.4810	
	5% Trimmed Mean	3.3751		
	Median	3.5556		
	Variance	1.741		
	Std. Deviation	1.31938		
	Minimum	.00		
	Maximum	6.00		
	Range	6.00		
	Interquartile Range	1.86		
	Skewness	-.505	.144	
	Kurtosis	-.303	.286	
	Career Satisfaction (CS)	Mean	3.4549	.05425
95% Confidence Interval for Mean		Lower Bound	3.3481	
		Upper Bound	3.5616	
5% Trimmed Mean		3.5142		
Median		3.8000		
Variance		.848		
Std. Deviation		.92064		
Minimum		1.00		
Maximum		5.00		
Range		4.00		

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		Statistic	Std. Error	
	Interquartile Range	1.00		
	Skewness	-1.066	.144	
	Kurtosis	.674	.286	
Job Satisfaction (JS)	Mean	3.6887	.05741	
	95% Confidence Interval for Mean	Lower Bound	3.5757	
		Upper Bound	3.8017	
	5% Trimmed Mean	3.7508		
	Median	4.0000		
	Variance	.949		
	Std. Deviation	.97426		
	Minimum	1.00		
	Maximum	5.00		
	Range	4.00		
	Interquartile Range	1.00		
	Skewness	-.913	.144	
	Kurtosis	.342	.286	
Organisational Commitment (OC)	Mean	3.3889	.05328	
	95% Confidence Interval for Mean	Lower Bound	3.2840	
		Upper Bound	3.4938	
	5% Trimmed Mean	3.4156		
	Median	3.3333		
	Variance	.818		
	Std. Deviation	.90424		
	Minimum	1.00		
	Maximum	5.00		
	Range	4.00		
	Interquartile Range	1.00		
	Skewness	-.482	.144	
	Kurtosis	.009	.286	
Performance (Perf)	Mean	7.32	.083	
	95% Confidence Interval for Mean	Lower Bound	7.16	
		Upper Bound	7.49	
	5% Trimmed Mean	7.37		
	Median	8.00		
	Variance	1.982		
	Std. Deviation	1.408		
	Minimum	3		
	Maximum	10		
	Range	7		
	Interquartile Range	2		
	Skewness	-.475	.144	
	Kurtosis	.072	.286	
Mental/psychological health (GHQ-12)	Mean	12.0868	.34071	
	95% Confidence Interval for Mean	Lower Bound	11.4162	
		Upper Bound	12.7574	
	5% Trimmed Mean	11.6991		
	Median	11.0000		
	Variance	33.431		
	Std. Deviation	5.78199		
	Minimum	1.00		
	Maximum	33.00		
	Range	32.00		
	Interquartile Range	7.00		
	Skewness	1.040	.144	

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			Statistic	Std. Error
Wellbeing (ONS)		Kurtosis	.886	.286
		Mean	6.8012	.10038
	95% Confidence Interval for Mean	Lower Bound	6.6036	
		Upper Bound	6.9988	
		5% Trimmed Mean	6.8823	
		Median	7.0000	
		Variance	2.902	
		Std. Deviation	1.70359	
		Minimum	.75	
		Maximum	10.00	
		Range	9.25	
		Interquartile Range	2.00	
		Skewness	-.724	.144
		Kurtosis	.614	.286

Appendix Table J.2 Extreme Values for Study 2

		Case Number	Response Id	Value	
Thriving at Work (TAW)	Highest	1	62	R_25uvqTZeIEGfNik	7.00
		2	181	R_2zdyGIXb5d7EoU4	7.00
		3	73	R_0kZWezKJh3nkht7	6.55
		4	105	R_2v5DZlcC9bJ3sOf	6.55
		5	209	R_3P6Ri1mqPlsWg0t	6.55 ^a
	Lowest	1	176	R_12Guzij57NGp98U	1.00
		2	207	R_3lVu7Yzn45tYmr5	1.18
		3	156	R_3mgIHtxZVVvdSee	1.36
		4	140	R_3EW2sCxpzJbs7zR	1.45
		5	122	R_RF90InnKdml1QRj	1.55
Resilience (BRS)	Highest	1	62	R_25uvqTZeIEGfNik	5.00
		2	154	R_2AEkfOQMLw19AGV	5.00
		3	198	R_10Cq2FdXXkri2Oa	5.00
		4	250	R_2tngqwH086ss8UW	5.00
		5	262	R_3KIoeh9V4cUzbiq	5.00 ^b
	Lowest	1	234	R_ctLYu4BZ3jvnNnj	1.00
		2	182	R_26nF4u75MtC4FNC	1.00
		3	176	R_12Guzij57NGp98U	1.17
		4	195	R_25uTfi8ylwrK8M4	1.67
		5	112	R_ONYeHrDrheU3sDT	1.67 ^c
Work Engagement (UWES)	Highest	1	62	R_25uvqTZeIEGfNik	6.00
		2	181	R_2zdyGIXb5d7EoU4	6.00
		3	209	R_3P6Ri1mqPlsWg0t	5.78
		4	159	R_YbEtRSFfsJOtZ1T	5.67
		5	261	R_20YkikxhowYdB3S	5.56 ^d
	Lowest	1	240	R_1FJNIFqrsWYsWL	.00
		2	226	R_PCLUCWJEUOwTsVX	.00
		3	207	R_3lVu7Yzn45tYmr5	.00
		4	110	R_3lXyUqv85kimO8O	.00
		5	106	R_uwLiOgatIcYOFH	.00
Career Satisfaction (CS)	Highest	1	62	R_25uvqTZeIEGfNik	5.00
		2	105	R_2v5DZlcC9bJ3sOf	5.00
		3	162	R_UrlwytSoLQSBllId	5.00
		4	181	R_2zdyGIXb5d7EoU4	5.00
		5	232	R_1mf0gqETw47Z2PE	5.00

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		Case Number	Response Id	Value	
	Lowest	1	260	R_2YfeOjXZKDMfmdu	1.00
		2	257	R_SPLHnV0TEcE5UKB	1.00
		3	242	R_3efA6K19ncXTeGn	1.00
		4	240	R_1FJNIFqrsWYsWL	1.00
		5	239	R_3QFTj9mQxalxo4	1.00 ^e
Job Satisfaction (JS)	Highest	1	3	R_2WC3slnI2d3YUJJ	5.00
		2	5	R_1lhPXS4cQXKQhmC	5.00
		3	17	R_2tDp1mctPurXVJ1	5.00
		4	18	R_vZDKW17ysan0CYN	5.00
		5	34	R_27TN8bQ2tiakiT4	5.00 ^b
	Lowest	1	260	R_2YfeOjXZKDMfmdu	1.00
		2	257	R_SPLHnV0TEcE5UKB	1.00
		3	240	R_1FJNIFqrsWYsWL	1.00
		4	226	R_PCLUCWJEUOWtsVX	1.00
		5	204	R_vMFN9J66Q32eKHf	1.00 ^e
Organisational Commitment (OC)	Highest	1	2	R_3knx0Rwi56oCxXy	5.00
		2	3	R_2WC3slnI2d3YUJJ	5.00
		3	5	R_1lhPXS4cQXKQhmC	5.00
		4	76	R_1QhAmYLN6t9jFBN	5.00
		5	103	R_3RlyGxF2tRRPfeH	5.00 ^b
	Lowest	1	240	R_1FJNIFqrsWYsWL	1.00
		2	226	R_PCLUCWJEUOWtsVX	1.00
		3	176	R_12Guzij57NGp98U	1.00
		4	156	R_3mglHtxZVVVdSee	1.00
		5	106	R_uwfLiOgatIcYOFH	1.00 ^e
Performance (Perf)	Highest	1	28	R_1Q4okDse8nMOD13	10
		2	78	R_3DoJ3O99r8NjbaJ	10
		3	90	R_3psP9iqaNE6ECpJ	10
		4	111	R_20O2zPDQHeIvPuW	10
		5	162	R_UrlwytSoLQSBllD	10 ^f
	Lowest	1	182	R_26nF4u75MtC4FNC	3
		2	106	R_uwfLiOgatIcYOFH	3
		3	52	R_2dQReYuHVV3Xt0q	3
		4	165	R_1KweI9OqN0sPnxJ	4
		5	149	R_25R9TtOQ59hRYXe	4 ^g
Mental/psychological health (GHQ-12)	Highest	1	106	R_uwfLiOgatIcYOFH	33.00
		2	176	R_12Guzij57NGp98U	32.00
		3	122	R_RF90lnnKdml1QRj	30.00
		4	156	R_3mglHtxZVVVdSee	30.00
		5	131	R_2aY92UyYloi6QcO	29.00
	Lowest	1	269	R_2zeaOfsmEoCDAUt	1.00
		2	126	R_2EBmofEWKRXsNEw	2.00
		3	231	R_1lo7le2Fj51vsnT	3.00
		4	123	R_wXdZXb5zVV20G4x	4.00
		5	111	R_20O2zPDQHeIvPuW	4.00 ^g
Wellbeing (ONS)	Highest	1	105	R_2v5DZlcC9bJ3sOf	10.00
		2	111	R_20O2zPDQHeIvPuW	10.00
		3	62	R_25uvqTZeiEGfNik	9.75
		4	103	R_3RlyGxF2tRRPfeH	9.75
		5	110	R_3IXYUqv85kimO8O	9.75 ^h
	Lowest	1	106	R_uwfLiOgatIcYOFH	.75
		2	156	R_3mglHtxZVVVdSee	1.00
		3	195	R_25uTfi8ylwrK8M4	1.50
		4	60	R_1n28mLLtk54SNfQ	2.50

Case Number	Response Id	Value
5	240	R_1FJNIFqrsWYsWL
		2.75 ⁱ

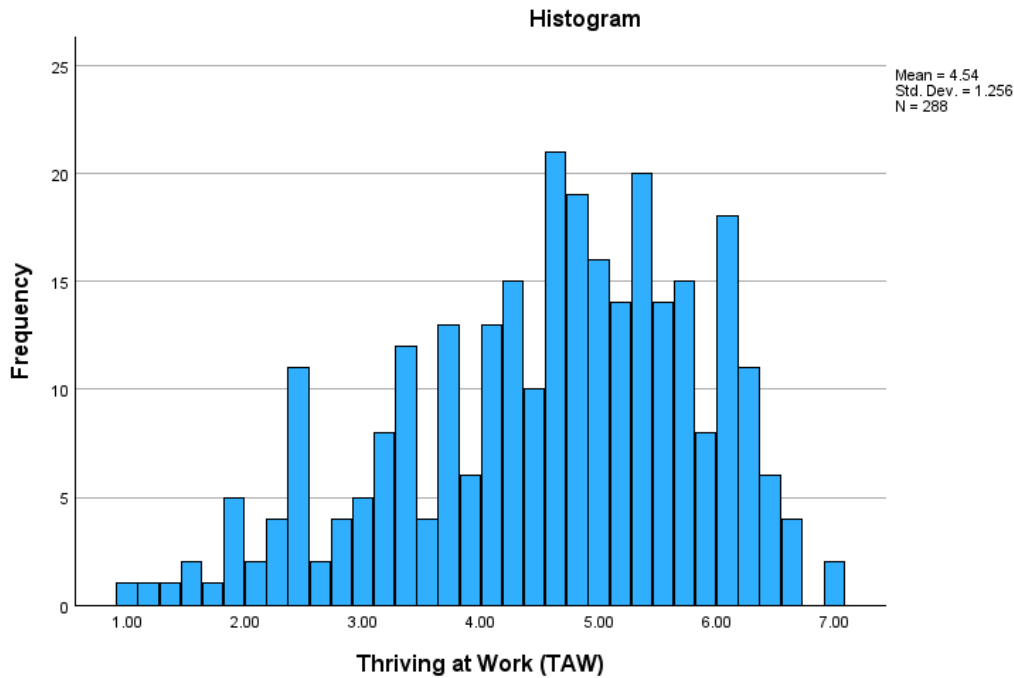
- a. Only a partial list of cases with the value 6.55 are shown in the table of upper extremes.
- b. Only a partial list of cases with the value 5.00 are shown in the table of upper extremes.
- c. Only a partial list of cases with the value 1.67 are shown in the table of lower extremes.
- d. Only a partial list of cases with the value 5.56 are shown in the table of upper extremes.
- e. Only a partial list of cases with the value 1.00 are shown in the table of lower extremes.
- f. Only a partial list of cases with the value 10 are shown in the table of upper extremes.
- g. Only a partial list of cases with the value 4 are shown in the table of lower extremes.
- h. Only a partial list of cases with the value 9.75 are shown in the table of upper extremes.
- i. Only a partial list of cases with the value 2.75 are shown in the table of lower extremes.

Appendix Table J.3 Tests of Normality for Study 2

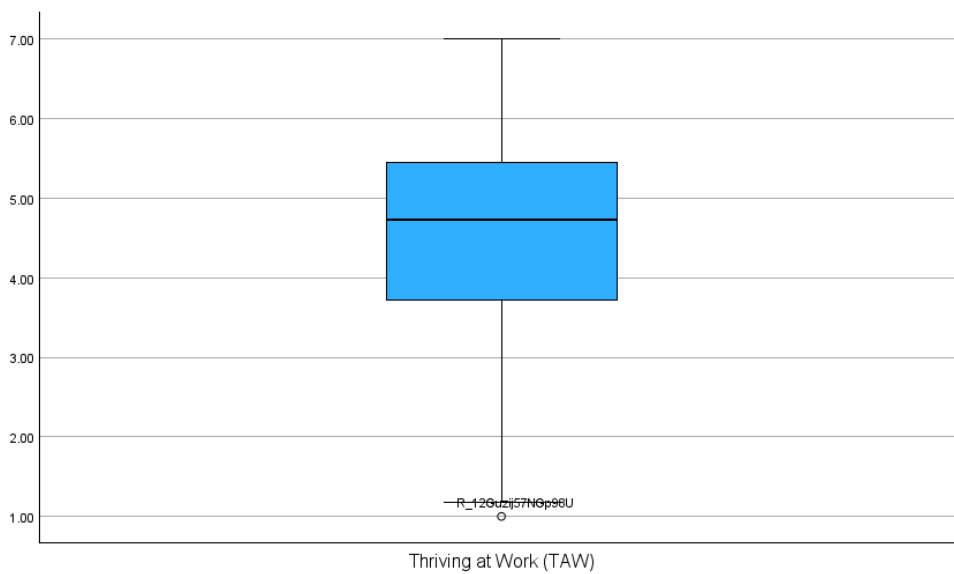
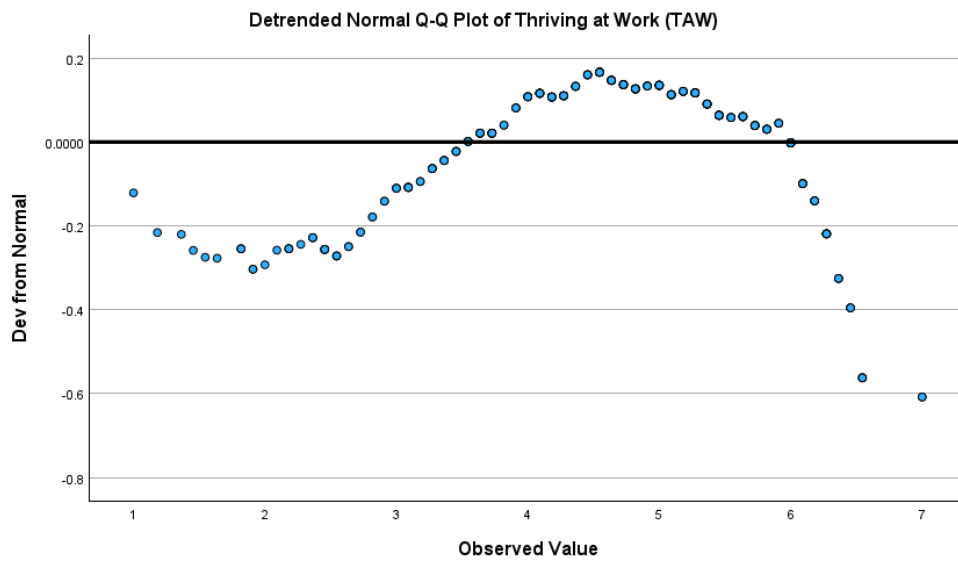
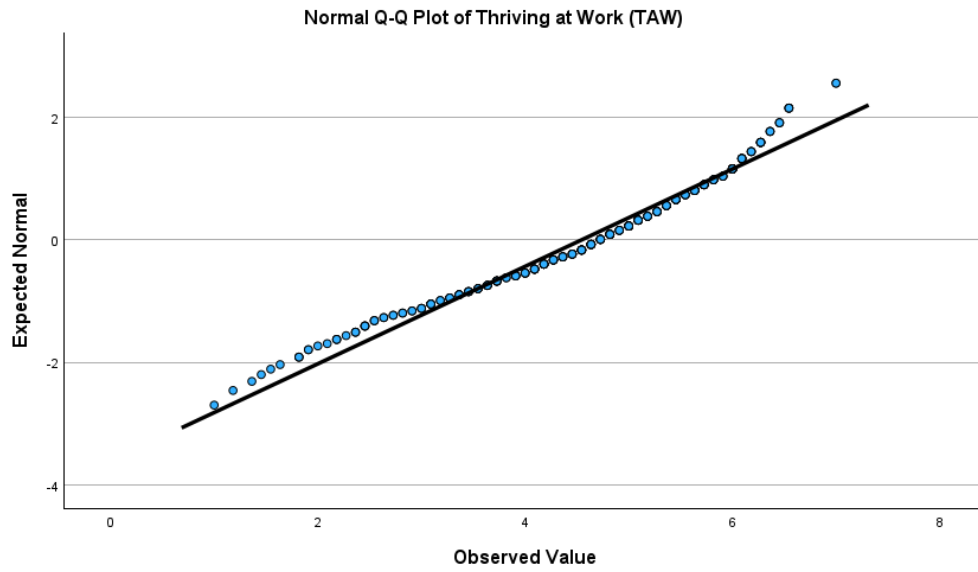
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Thriving at Work (TAW)	.084	288	<.001	.969	288	<.001
Resilience (BRS)	.109	288	<.001	.977	288	<.001
Work Engagement (UWES)	.074	288	<.001	.972	288	<.001
Career Satisfaction (CS)	.191	288	<.001	.889	288	<.001
Job Satisfaction (JS)	.226	288	<.001	.902	288	<.001
Organisational Commitment (OC)	.142	288	<.001	.961	288	<.001
Performance (Perf)	.192	288	<.001	.937	288	<.001
Mental/psychological health (GHQ-12)	.138	288	<.001	.921	288	<.001
Wellbeing (ONS)	.082	288	<.001	.966	288	<.001

a. Lilliefors Significance Correction

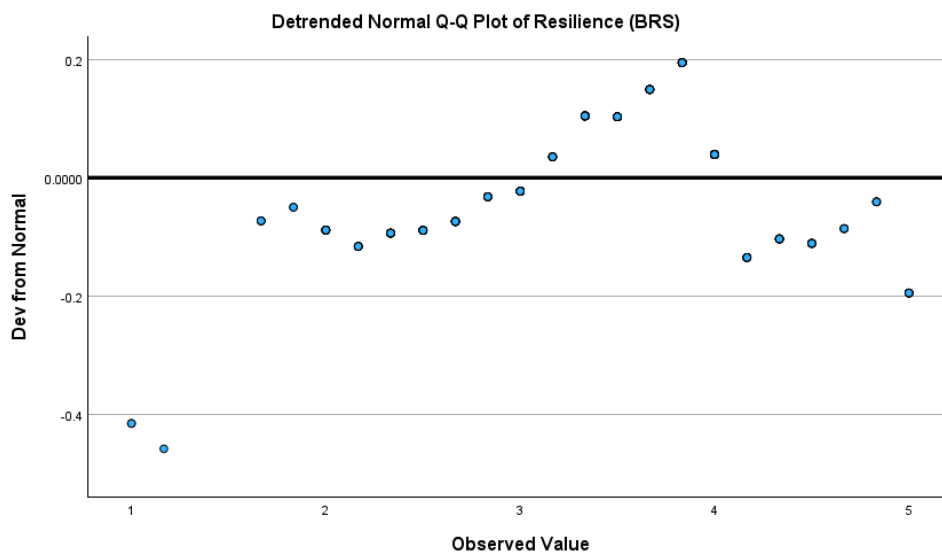
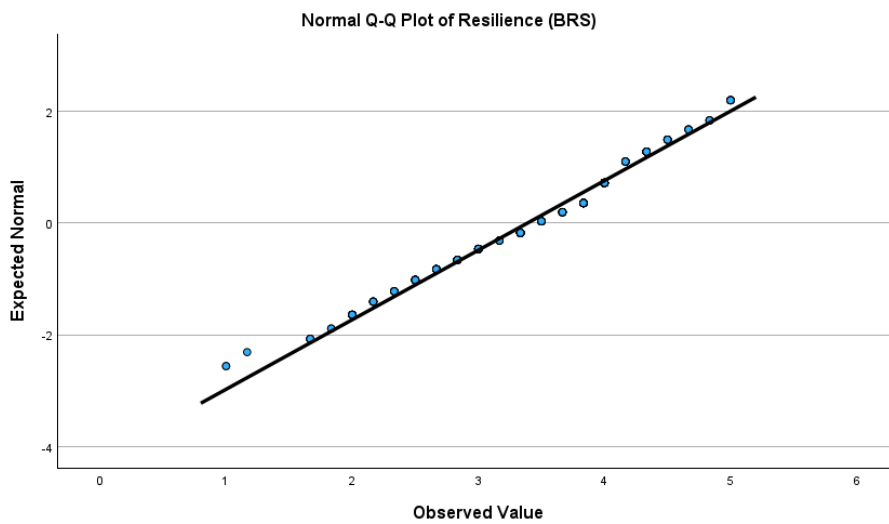
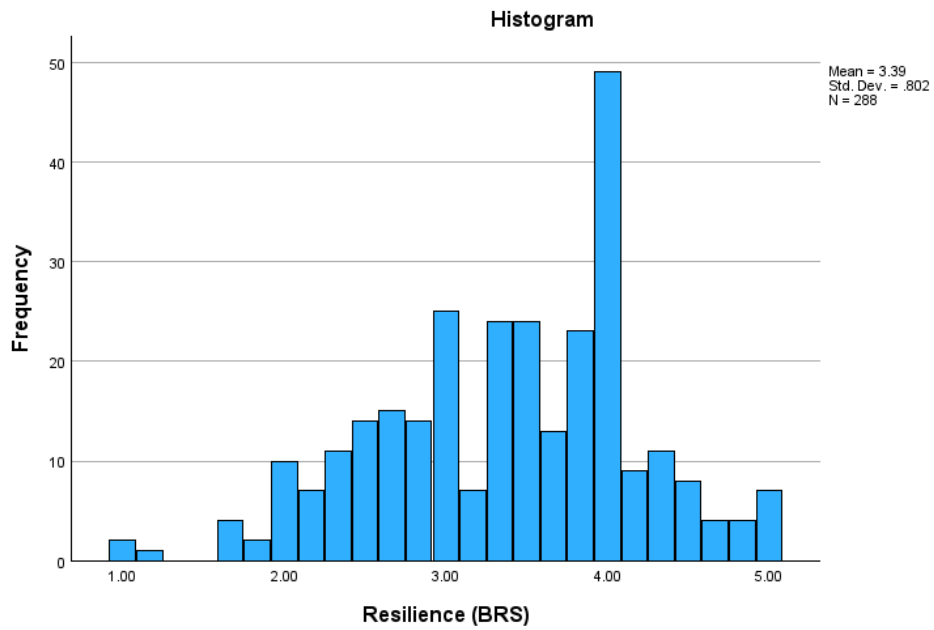
J.1 Normality Graphs for Thriving at Work (TAW) for Study 2

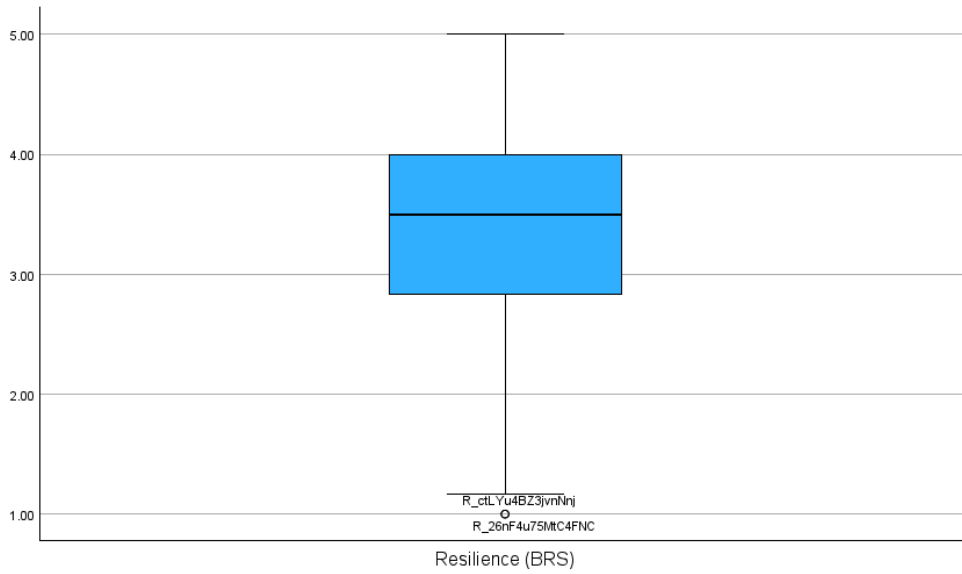


An Investigation Into the Relationship Between Resilience and Thriving at Work

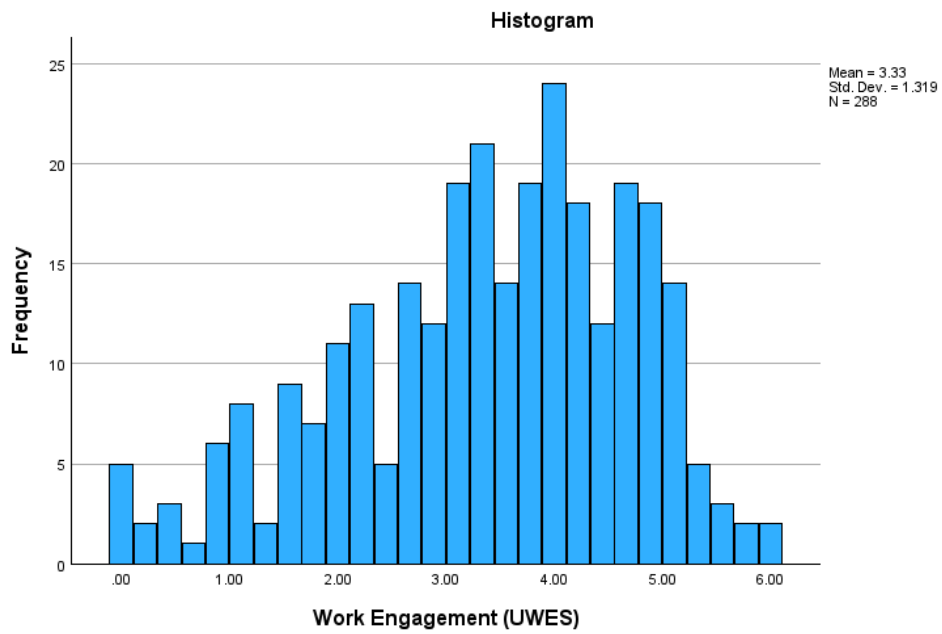


J.2 Normality Graphs for Resilience (BRS) for Study 2

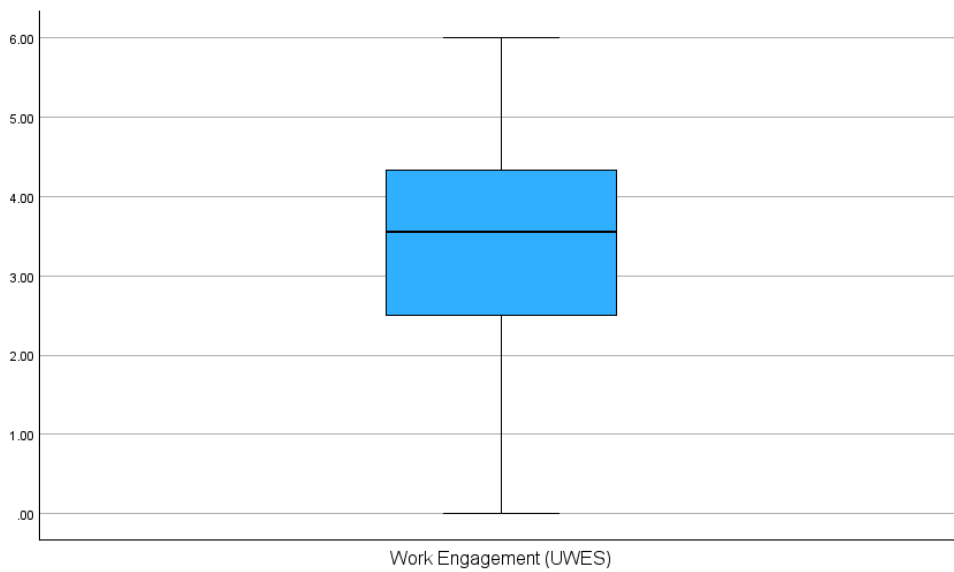
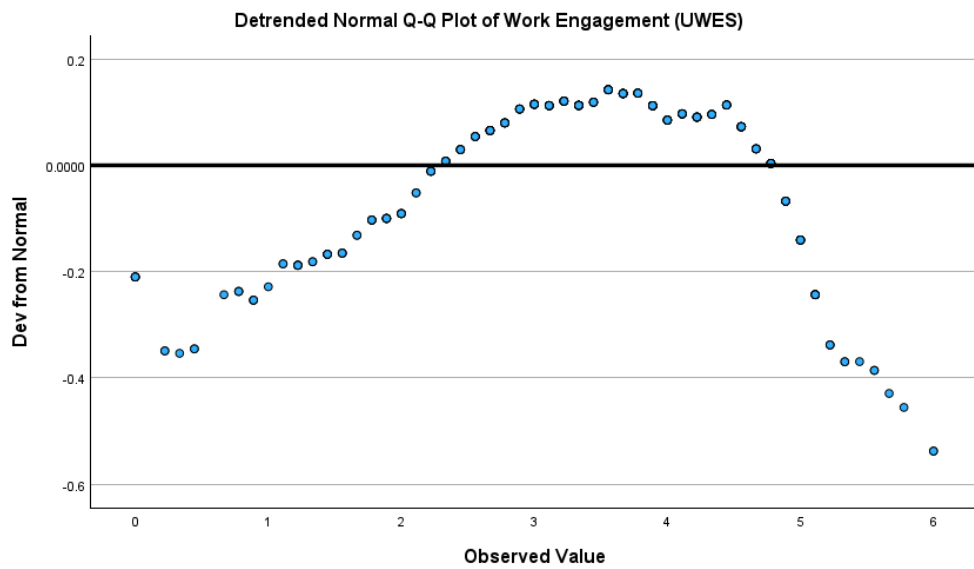
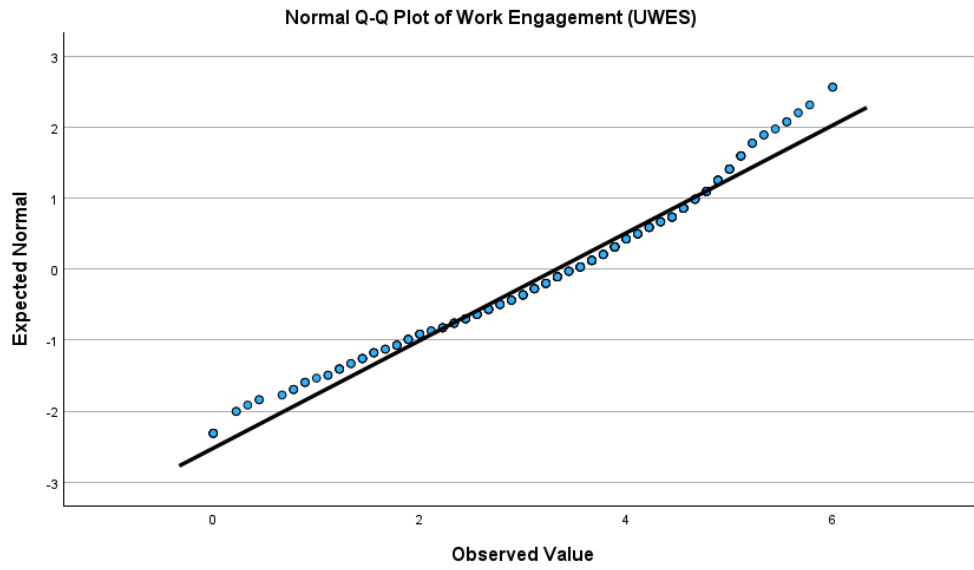




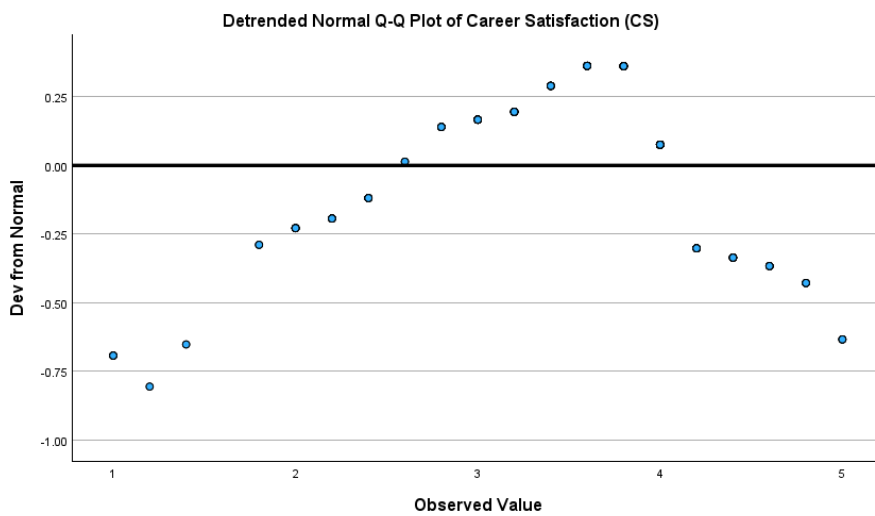
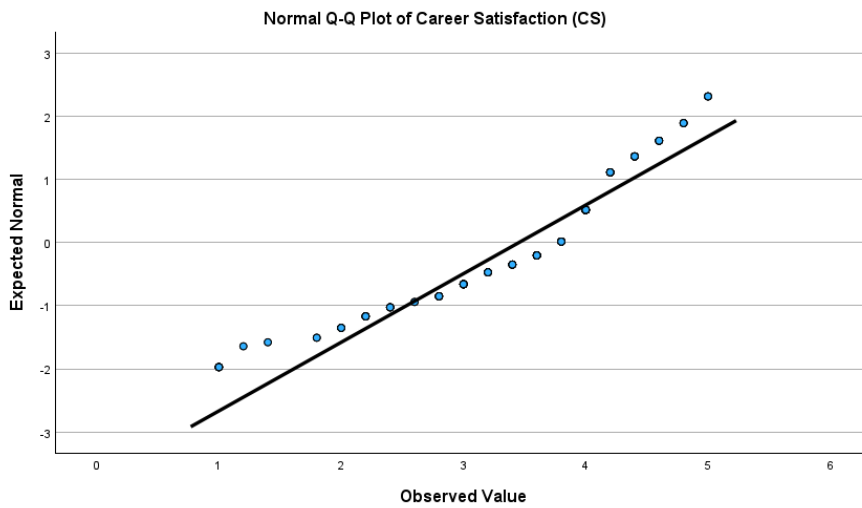
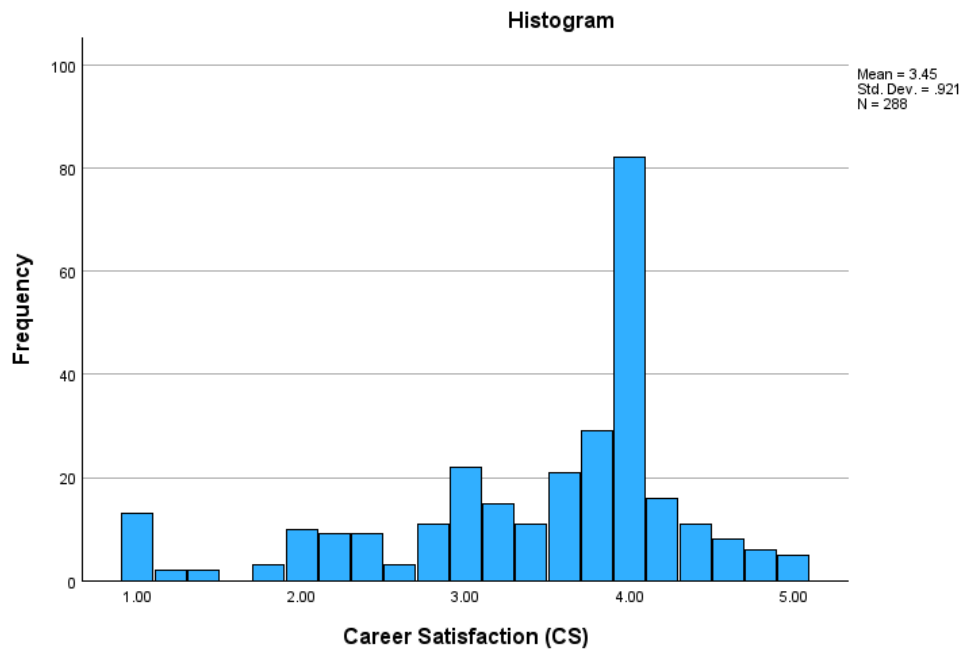
J.3 Normality Graphs for Work Engagement (UWES) for Study 2



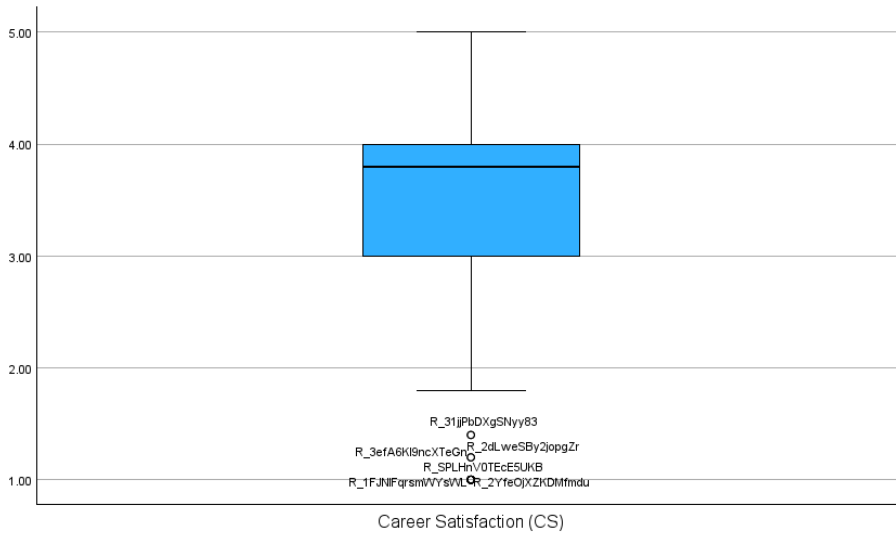
An Investigation Into the Relationship Between Resilience and Thriving at Work



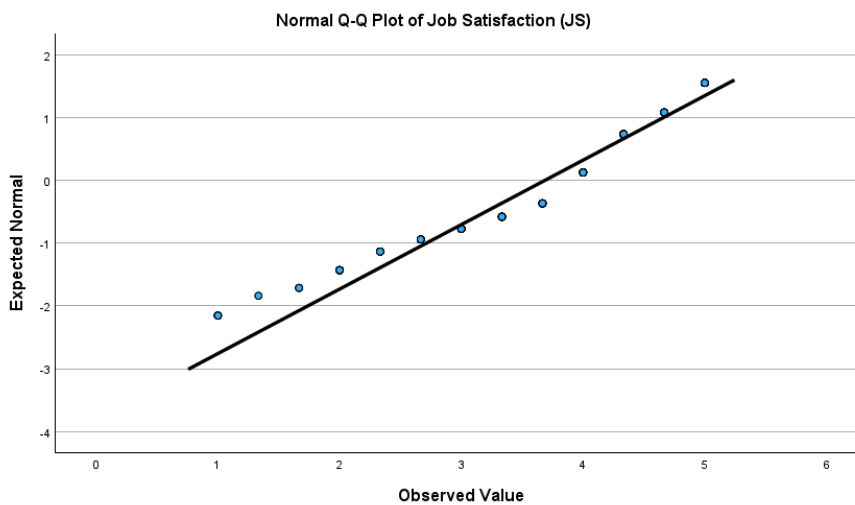
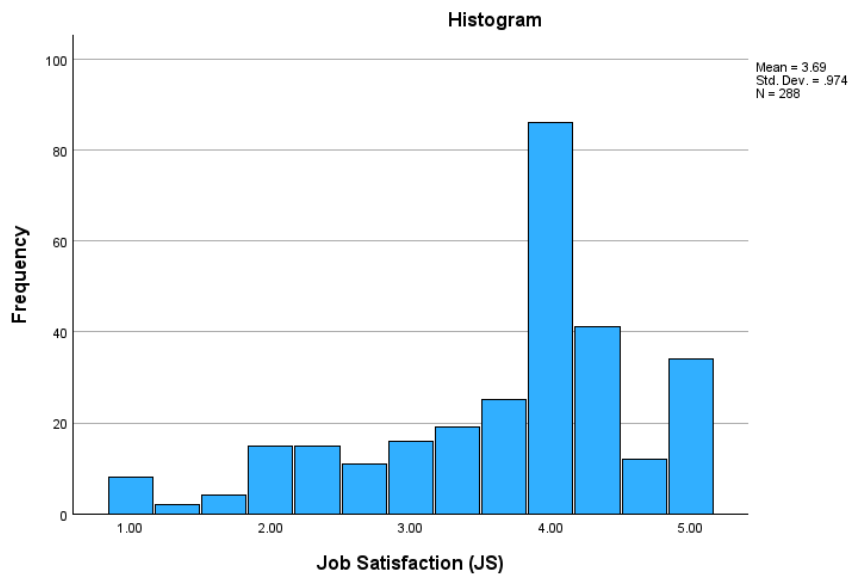
J.4 Normality Graphs for Career Satisfaction (CS) for Study 2

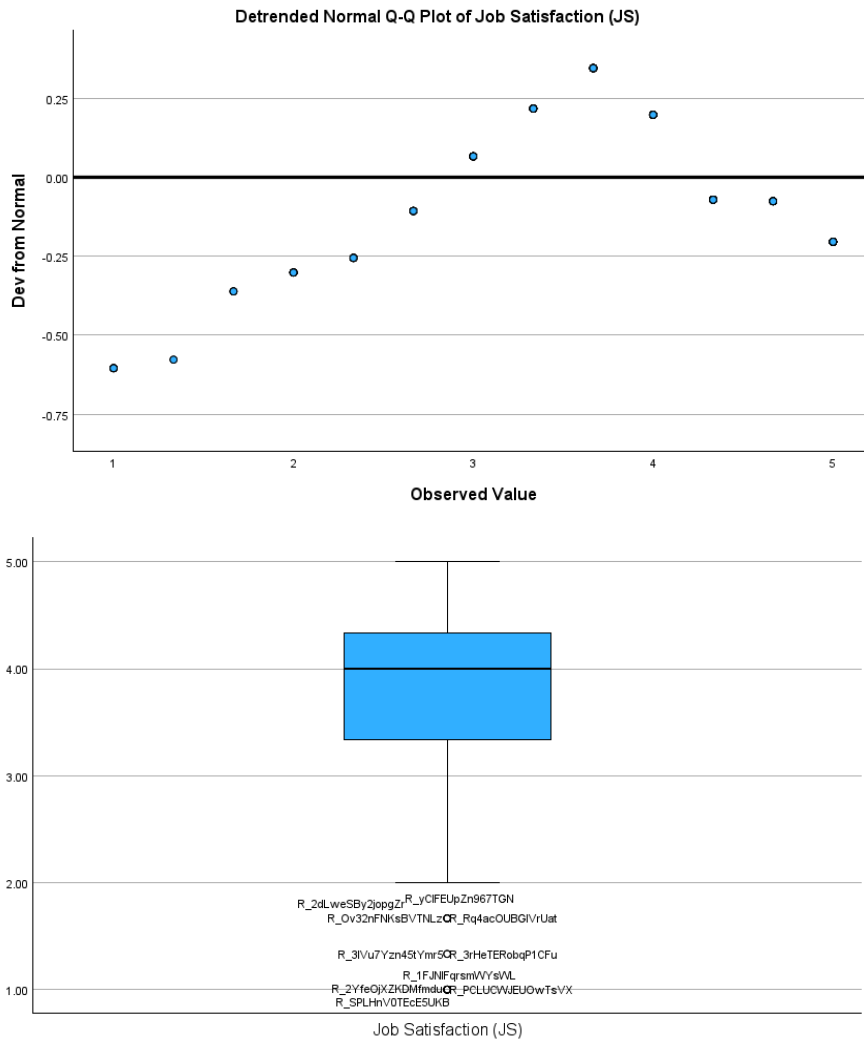


An Investigation Into the Relationship Between Resilience and Thriving at Work

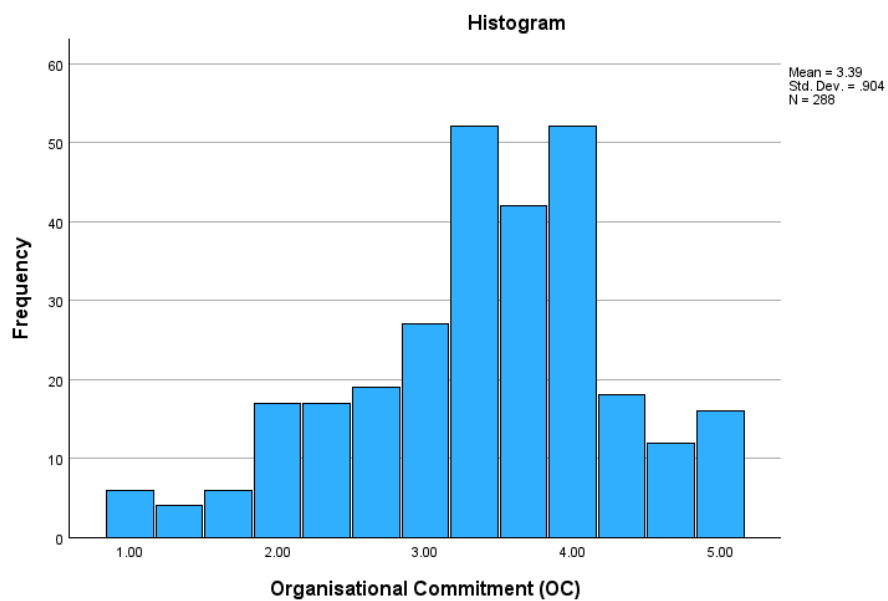


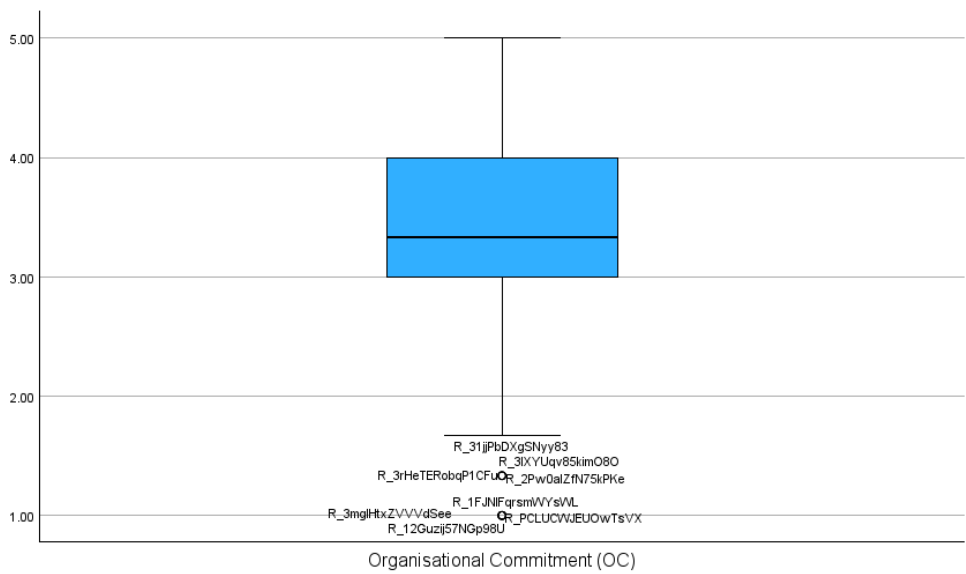
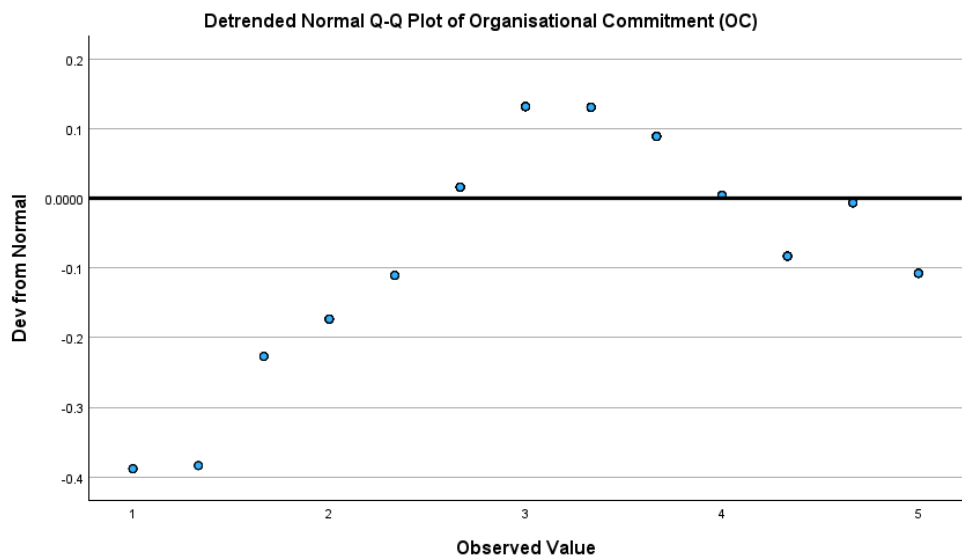
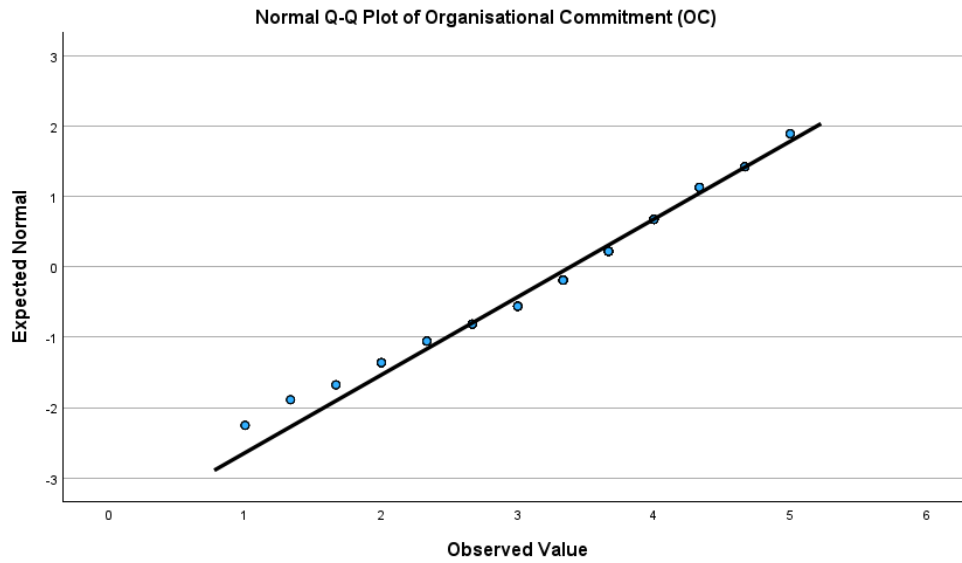
J.5 Normality Graphs for Job Satisfaction (JS) for Study 2



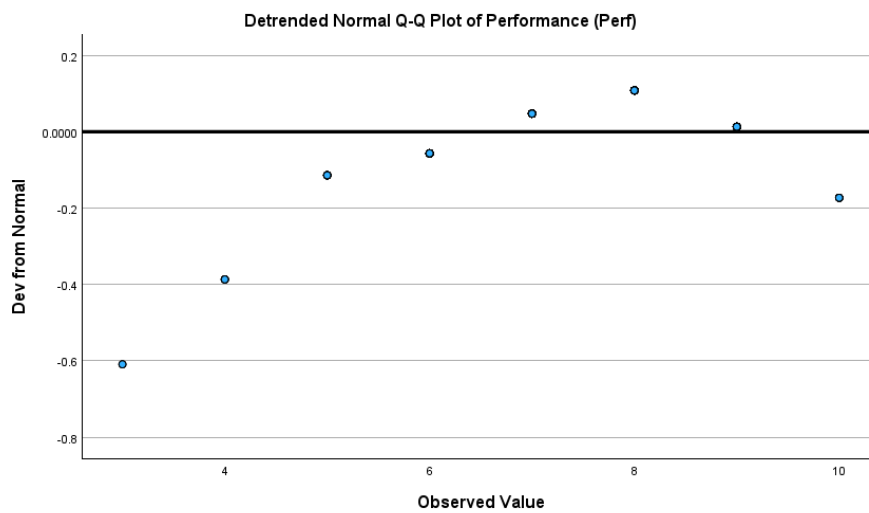
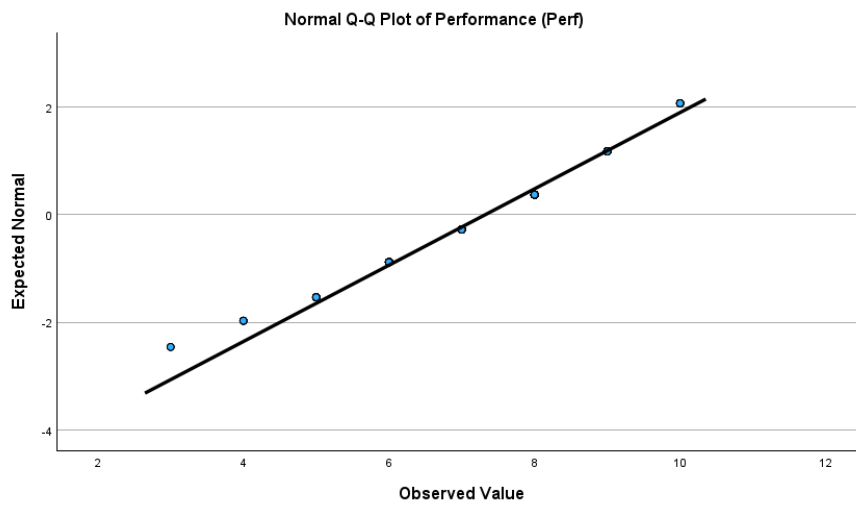
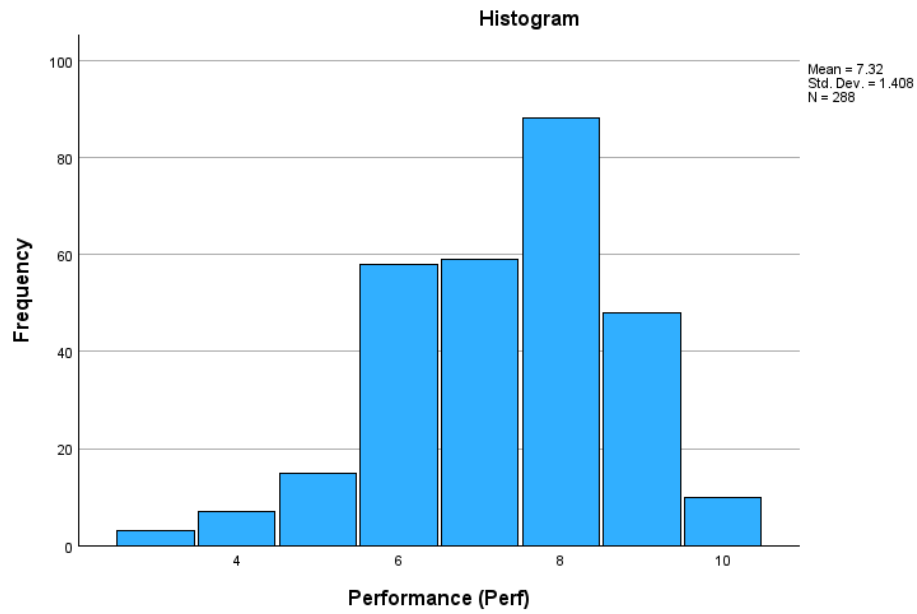


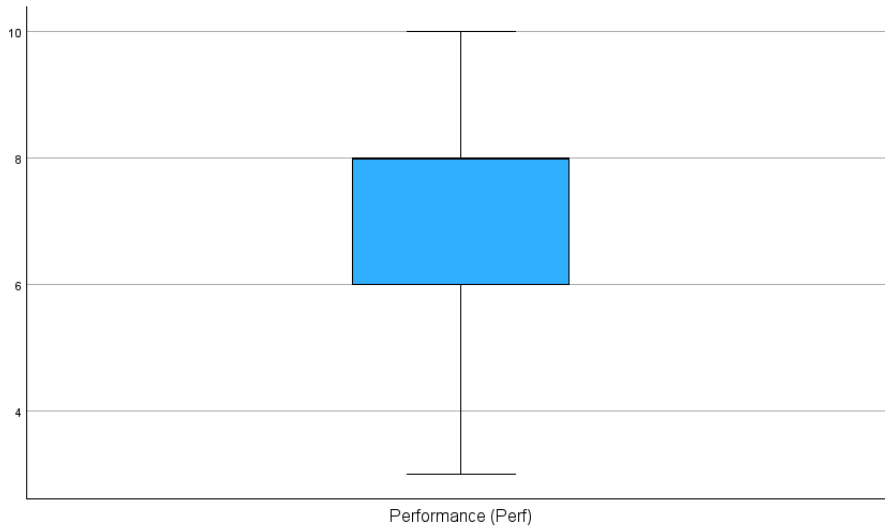
J.6 Normality Graphs for Organisational Commitment (OC) for Study 2



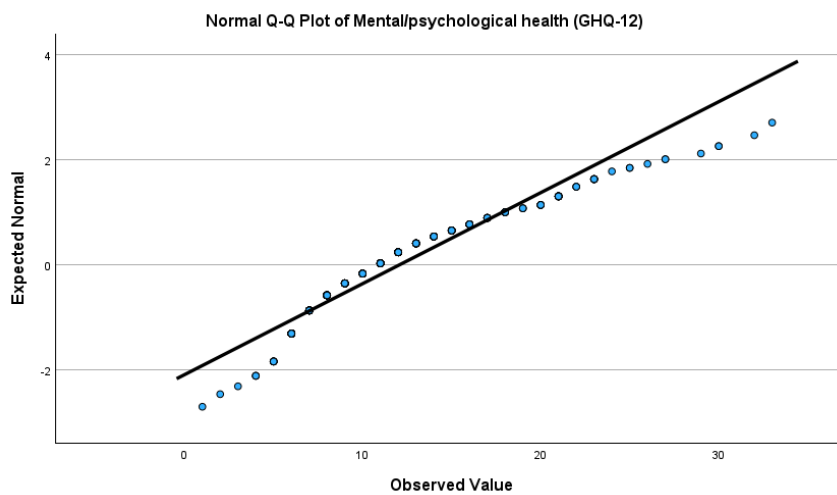
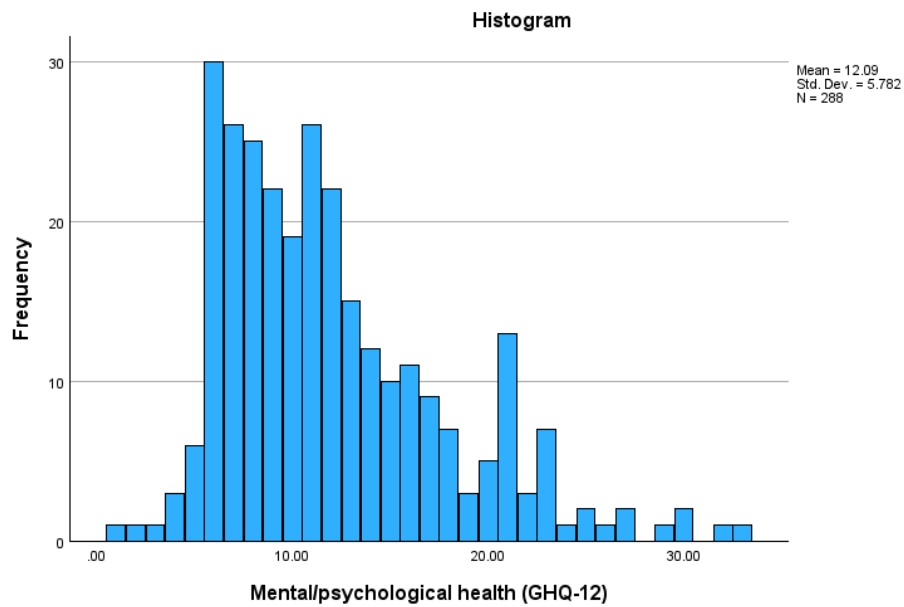


J.7 Normality Graphs for Performance for Study 2

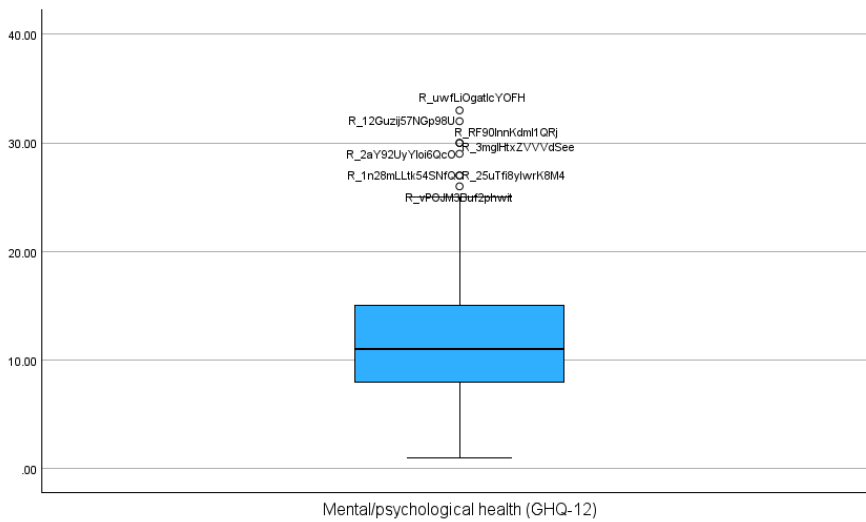
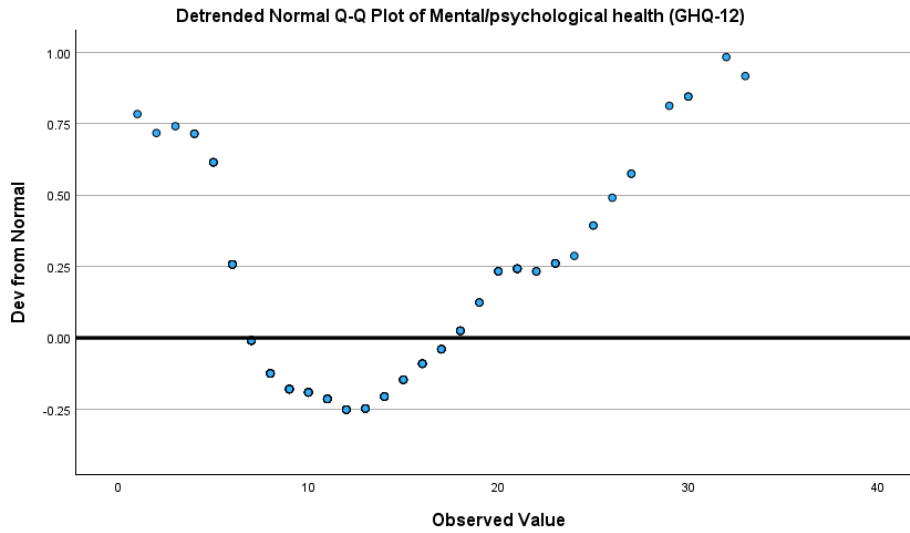




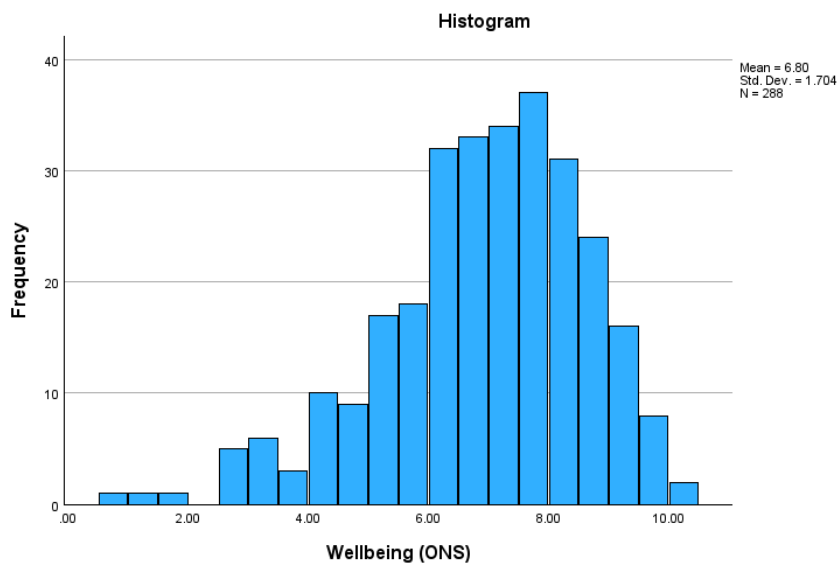
J.8 Normality Graphs for Mental/psychological health (GHQ-12) for Study 2



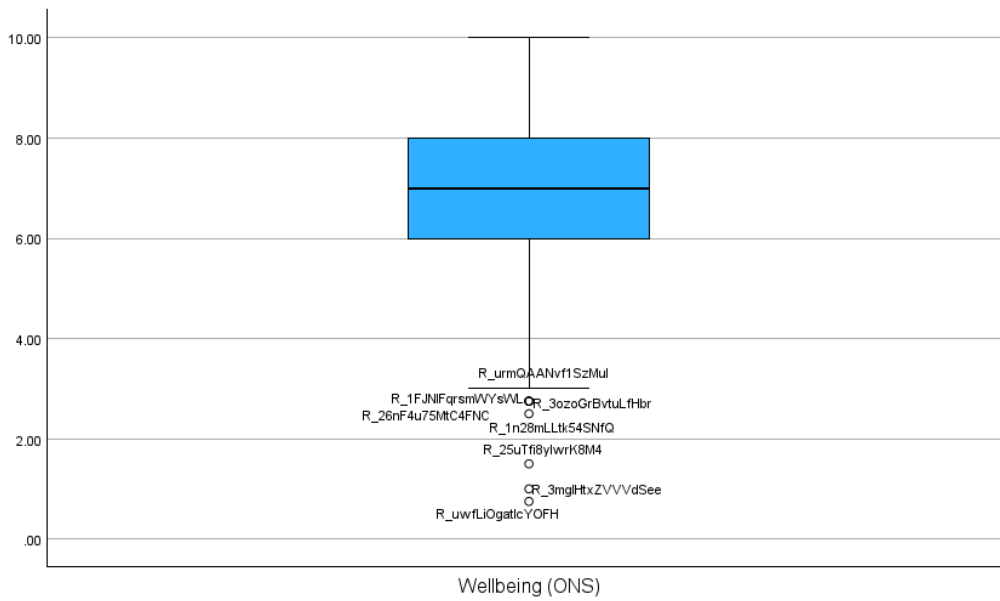
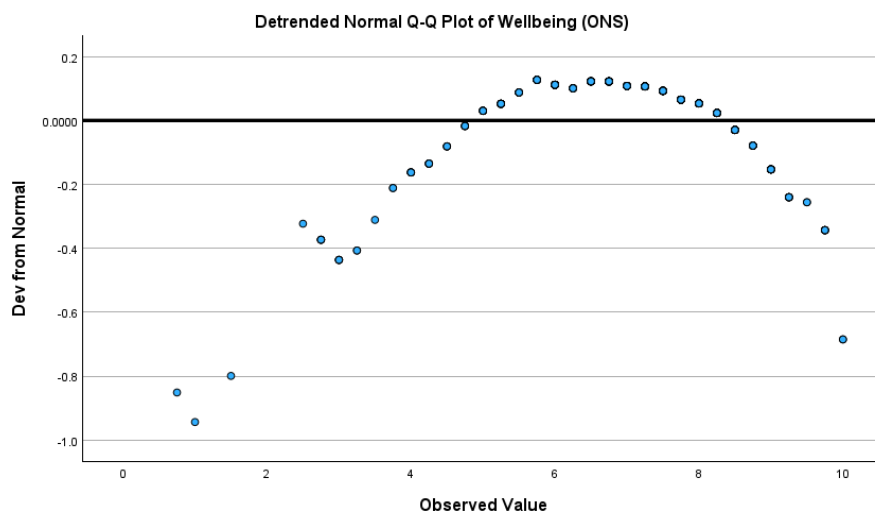
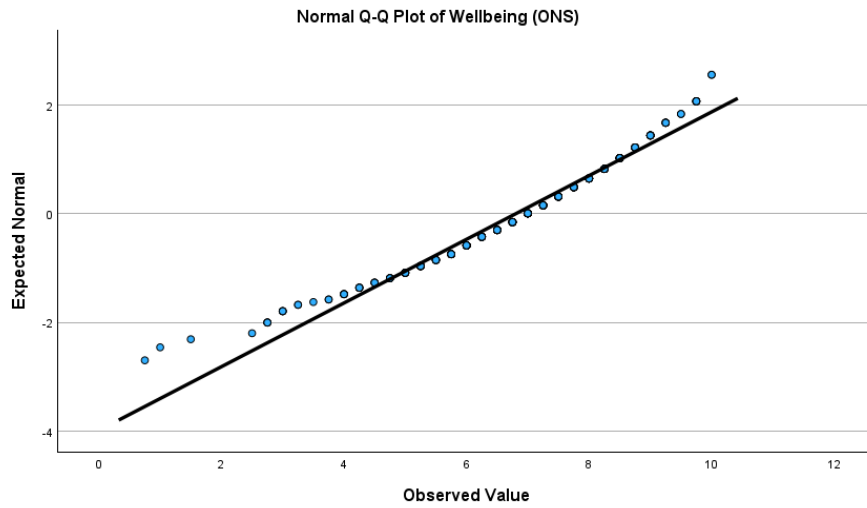
An Investigation Into the Relationship Between Resilience and Thriving at Work



J.9 Normality Graphs for Wellbeing (ONS) for Study 2



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Appendix K

Resilience at Work Measures Considered for Study 2b

Measure	Source	Resilience Definition	# items	Pros	Cons
Resilience scale (subscale of PsyCap questionnaire)	Luthans et al. 2007a	Subset of Wagnild & Young's resilience scale, outcome/trait focused. Rationale: resilience as malleable, positive psychological state Focus: handling challenges at work and recovery from them	6	Used in lots of PsyCap studies in organisations. Short. Whole PCQ may be relevant (see below) so it may be a good choice for that reason. Not that different from the BRS - but specific to work.	
Employee Resilience Scale	Näswall et al. 2019	“the capacity of employees to utilize resources to continually adapt and flourish at work, even when faced with challenging circumstances” (Kuntz et al., 2016, p. 460)	9	Came out best of 3 in Norouzinia et al. (2020) review of workplace resilience instruments. Short. Considers context as well as individual aspects. Specific to resilience at work. Assesses behaviours not traits	Overlap with definition of thriving at work.
Resilience @ Work scale	Winwood, Colon, & McEwen (2013)	we deliberately avoid attempting to achieve a global definition of resilience. we aim to identify elements of resilience that are open to development through conscious choice and decision. In other words, we were looking to understand the elements of workplace resilience as a skill that could be taught, practiced, and developed.	20	psychometrically based on data from participants in different countries. Not too long. Specific to resilience at work. Assesses behaviours and beliefs	Very unclear definition of resilience, completely focused on practical aspects that can maybe be changed. Came out very low in Norouzinia et al. (2020) review of workplace resilience instruments
Workplace Resilience Inventory	McLarnon & Rothstein (2013)	a dynamic process that unfolds over time involving self-regulatory and protective processes and situational variables as well as individual difference variables.	60	Came out ok in Norouzinia et al. (2020) review of workplace resilience instruments. Good theoretical process model underpinning measure. Specific to resilience at work.	Too long!
Brief Resilience Scale (BRS)	Smith et al., 2008	a scale for assessing the original and most basic meaning of the word resilience: the ability to bounce back or recover from stress	6	In top 3 of 19 resilience scales assessed by Windle et al. (2011). Short. Frequently used resilience scale.	Not a process-based scale. Not a resilience at work scale

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Measure	Source	Resilience Definition	# items	Pros	Cons
CD-RISC 10	Campbell-Sills, L., & Stein, M. B., 2007	positive adaptation in the face of stress or trauma	10	Comes out ok in resilience scales assessed by Windle et al. (2011). Short. Most frequently used resilience measure.	The archetypal trait-based scale! Not a resilience at work scale
Worker Relations Scale	Biggs et al. 2016	n/a	9	Focuses on relationships which may be very important. Short. Could be used alongside other measures.	Does it distract from main measures - it's yet another set of questions.
Workplace Resilience Instrument	Mallak, L. A., & Yildiz, M., 2016	<p>Rationale: workplace resilience as individual's ability to return to an original (or improved) condition after a stressful situation</p> <p>Focus: (1) active problem-solving; (2) team efficacy; (3) confident sense-making; (4) bricolage</p>	20	ONLY TO BE USED WITH PERMISSION	

Appendix L
Demographics for Study 2b

Appendix Table L.1 Age for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	2	.7	.7	.7
	18-24	13	4.6	4.6	5.3
	25-34	95	33.5	33.5	38.7
	35-44	76	26.8	26.8	65.5
	45-54	60	21.1	21.1	86.6
	55-64	31	10.9	10.9	97.5
	65-74	6	2.1	2.1	99.6
	74+	1	.4	.4	100.0
	Total	284	100.0	100.0	

Appendix Table L.2 Gender for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	140	49.3	49.3	49.3
	Female	139	48.9	48.9	98.2
	Non-binary/third gender	5	1.8	1.8	100.0
	Total	284	100.0	100.0	

Appendix Table L.3 Ethnicity for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	255	89.8	89.8	89.8
	Black/African/Caribbean	3	1.1	1.1	90.8
	Asian (Indian, Pakistani, Bangladeshi, Chinese, any other Asian background)	19	6.7	6.7	97.5
	Mixed two or more ethnic groups	3	1.1	1.1	98.6
	Other (Arab or any others)	2	.7	.7	99.3
	Prefer not to say	2	.7	.7	100.0
	Total	284	100.0	100.0	

Appendix Table L.4 Full or Part Time for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Time	263	92.6	92.6	92.6
	Part Time	21	7.4	7.4	100.0
	Total	284	100.0	100.0	

Appendix Table L.5 Manager for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	149	52.5	52.5	52.5
	No	135	47.5	47.5	100.0
	Total	284	100.0	100.0	

Appendix Table L.6 Length of time in Job for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	12	4.2	4.2	4.2
	6 months to 1 year	21	7.4	7.4	11.6
	1-2 years	54	19.0	19.0	30.6
	2-3 years	43	15.1	15.1	45.8
	3-4 years	21	7.4	7.4	53.2
	4-5 years	18	6.3	6.3	59.5
	5+ years	115	40.5	40.5	100.0
	Total	284	100.0	100.0	

Appendix Table L.7 Level of Job Stress for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all stressful	23	8.1	8.1	8.1
	Mildly stressful	121	42.6	42.6	50.7
	Moderately stressful	97	34.2	34.2	84.9
	Very stressful	36	12.7	12.7	97.5
	Extremely stressful	7	2.5	2.5	100.0
	Total	284	100.0	100.0	

Appendix Table L.8 Company Size for Study 2b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-49	38	13.4	13.4	13.4
	50-249	70	24.6	24.6	38.0
	250-999	63	22.2	22.2	60.2
	1000+	113	39.8	39.8	100.0
	Total	284	100.0	100.0	

Appendix M
Data Normality Tests for Study 2b

Appendix Table M.1 Descriptives for Study 2b

		Statistic	Std. Error	
Thriving at Work (TAW)	Mean	4.5707	.07586	
	95% Confidence Interval for Mean	Lower Bound	4.4214	
		Upper Bound	4.7201	
	5% Trimmed Mean	4.6216		
	Median	4.7273		
	Variance	1.634		
	Std. Deviation	1.27835		
	Minimum	1.00		
	Maximum	7.00		
	Range	6.00		
	Interquartile Range	1.80		
	Skewness	-.590	.145	
	Kurtosis	-.209	.288	
	Thriving (BIT)	Mean	3.5398	.04202
95% Confidence Interval for Mean		Lower Bound	3.4571	
		Upper Bound	3.6225	
5% Trimmed Mean		3.5710		
Median		3.7000		
Variance		.502		
Std. Deviation		.70821		
Minimum		1.30		
Maximum		5.00		
Range		3.70		
Interquartile Range		.90		
Skewness		-.780	.145	
Kurtosis		.549	.288	
Resilience at Work (PsyCapR)		Mean	26.9085	.25790
	95% Confidence Interval for Mean	Lower Bound	26.4008	
		Upper Bound	27.4161	
	5% Trimmed Mean	27.0117		
	Median	27.0000		
	Variance	18.889		
	Std. Deviation	4.34616		
	Minimum	11.00		
	Maximum	36.00		
	Range	25.00		
	Interquartile Range	6.00		
	Skewness	-.392	.145	
	Kurtosis	.483	.288	
	Resilience (BRS)	Mean	3.3263	.05399
95% Confidence Interval for Mean		Lower Bound	3.2200	
		Upper Bound	3.4326	
5% Trimmed Mean		3.3452		
Median		3.5000		
Variance		.828		
Std. Deviation		.90983		
Minimum		1.00		
Maximum		5.00		
Range		4.00		

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		Statistic	Std. Error	
Work Engagement (UWES)	Interquartile Range	1.33		
	Skewness	-.415	.145	
	Kurtosis	-.486	.288	
	Mean	3.3936	.07546	
	95% Confidence Interval for Mean	Lower Bound	3.2450	
		Upper Bound	3.5421	
	5% Trimmed Mean	3.4350		
	Median	3.5556		
	Variance	1.617		
	Std. Deviation	1.27175		
Minimum	.00			
Maximum	6.00			
Range	6.00			
Career Satisfaction (CS)	Interquartile Range	1.78		
	Skewness	-.493	.145	
	Kurtosis	-.327	.288	
	Mean	3.4739	.05711	
	95% Confidence Interval for Mean	Lower Bound	3.3615	
		Upper Bound	3.5864	
	5% Trimmed Mean	3.5241		
	Median	3.8000		
	Variance	.926		
	Std. Deviation	.96249		
Minimum	1.00			
Maximum	5.00			
Range	4.00			
Job Satisfaction (JS)	Interquartile Range	1.00		
	Skewness	-.879	.145	
	Kurtosis	.282	.288	
	Mean	3.6362	.05981	
	95% Confidence Interval for Mean	Lower Bound	3.5184	
		Upper Bound	3.7539	
	5% Trimmed Mean	3.7037		
	Median	4.0000		
	Variance	1.016		
	Std. Deviation	1.00794		
Minimum	1.00			
Maximum	5.00			
Range	4.00			
Organisational Commitment (OC)	Interquartile Range	1.33		
	Skewness	-.943	.145	
	Kurtosis	.334	.288	
	Mean	3.3016	.05401	
	95% Confidence Interval for Mean	Lower Bound	3.1953	
		Upper Bound	3.4080	
	5% Trimmed Mean	3.3190		
	Median	3.3333		
	Variance	.829		
	Std. Deviation	.91027		
Minimum	1.00			
Maximum	5.00			
Range	4.00			
Interquartile Range	1.33			
Skewness	-.359	.145		

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		Statistic	Std. Error	
Performance (Perf.)	Kurtosis	-.187	.288	
	Mean	7.51	.080	
	95% Confidence Interval for Mean	Lower Bound	7.35	
		Upper Bound	7.66	
	5% Trimmed Mean	7.54		
	Median	8.00		
	Variance	1.827		
	Std. Deviation	1.352		
	Minimum	3		
	Maximum	10		
	Range	7		
	Interquartile Range	1		
	Skewness	-.383	.145	
	Kurtosis	.200	.288	
Mental/psychological Health (GHQ-12)	Mean	12.9190	.37851	
	95% Confidence Interval for Mean	Lower Bound	12.1740	
		Upper Bound	13.6641	
	5% Trimmed Mean	12.4131		
	Median	11.0000		
	Variance	40.690		
	Std. Deviation	6.37883		
	Minimum	4.00		
	Maximum	36.00		
	Range	32.00		
	Interquartile Range	9.00		
	Skewness	1.101	.145	
	Kurtosis	.912	.288	
	Wellbeing (ONS)	Mean	6.3996	.11212
95% Confidence Interval for Mean		Lower Bound	6.1789	
		Upper Bound	6.6203	
5% Trimmed Mean		6.4705		
Median		6.7500		
Variance		3.570		
Std. Deviation		1.88952		
Minimum		.25		
Maximum		10.00		
Range		9.75		
Interquartile Range		2.50		
Skewness		-.520	.145	
Kurtosis		-.120	.288	

Appendix Table M.2 Extreme Values for Study 2b

		Case Number	Response Id	Value	
Thriving at Work (TAW)	Highest	1	252	R_3qs8USAkY975HYK	7.00
		2	258	R_6EyDu48e8CL111n	7.00
		3	247	R_1lnjcpLaVzM8RjF	6.91
		4	141	R_2Y3xq0N2EriYeZ7	6.64
		5	190	R_1IGYRj1OAP78FH7	6.55 ^a
	Lowest	1	24	R_2B5HD0mXeSxpDnu	1.00
		2	4	R_D0PwnvCnX7eA31n	1.00
		3	31	R_12bDUKtm6fjimm1	1.09
		4	19	R_3RwQ2hrZ9C4WkiY	1.27
		5	42	R_D94uWhTwUIWBmG5	1.36
Thriving (BIT)	Highest	1	219	R_1JUUISi4Yr1qy5S	5.00
		2	258	R_6EyDu48e8CL111n	5.00
		3	247	R_1lnjcpLaVzM8RjF	4.90
		4	238	R_3q9D8xKO2r9bsKG	4.80
		5	141	R_2Y3xq0N2EriYeZ7	4.70 ^b
	Lowest	1	7	R_XvqgsWxKg1pIsRH	1.30
		2	4	R_D0PwnvCnX7eA31n	1.30
		3	22	R_5pCGpKO55lhV5IZ	1.40
		4	2	R_1PcJz4oU4PUDMSg	1.40
		5	12	R_3G20ynEr9S8gBuK	1.50
Resilience at Work (PsyCapR)	Highest	1	80	R_2ceATvlUxyFXTbX	36.00
		2	141	R_2Y3xq0N2EriYeZ7	36.00
		3	183	R_268rdpkn9DTI5UM	36.00
		4	202	R_TtO8kWE5Quwshi1	36.00
		5	238	R_3q9D8xKO2r9bsKG	36.00 ^c
	Lowest	1	7	R_XvqgsWxKg1pIsRH	11.00
		2	22	R_5pCGpKO55lhV5IZ	14.00
		3	15	R_21BAkJRGgoqT4ng	14.00
		4	58	R_29jplBhrulvcITz	15.00
		5	99	R_1otXztNW0KLY5L6	16.00 ^d
Resilience (BRS)	Highest	1	80	R_2ceATvlUxyFXTbX	5.00
		2	141	R_2Y3xq0N2EriYeZ7	5.00
		3	202	R_TtO8kWE5Quwshi1	5.00
		4	247	R_1lnjcpLaVzM8RjF	5.00
		5	252	R_3qs8USAkY975HYK	5.00 ^e
	Lowest	1	38	R_3MDTnkcQ6LPX7Xb	1.00
		2	22	R_5pCGpKO55lhV5IZ	1.00
		3	2	R_1PcJz4oU4PUDMSg	1.00
		4	92	R_ukNFwcNfTAKLjgJ	1.17
		5	53	R_vCSqhyY8xo7YBxv	1.17 ^f
Work Engagement (UWES)	Highest	1	252	R_3qs8USAkY975HYK	6.00
		2	258	R_6EyDu48e8CL111n	5.89
		3	247	R_1lnjcpLaVzM8RjF	5.78
		4	259	R_8tTfritzGpGx6z4t	5.78
		5	141	R_2Y3xq0N2EriYeZ7	5.56 ^g
	Lowest	1	7	R_XvqgsWxKg1pIsRH	.00
		2	1	R_31HuDgIc09HPYW9	.00
		3	24	R_2B5HD0mXeSxpDnu	.11
		4	10	R_3kNvhAAlIjH7gX5	.11
		5	192	R_2zvDfXGZ1JszHOY	.44
Career Satisfaction (CS)	Highest	1	9	R_22Ku8G12fkEVNSJ	5.00
		2	51	R_2c0hONJcOsAdLIc	5.00
		3	108	R_2ZHTLA6zdsNARDk	5.00

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		Case Number	Response Id	Value	
		4	178	R_22s2whcmDUMQdeA	5.00
		5	200	R_BXmuvfPYcriUFVf	5.00 ^e
	Lowest	1	209	R_3ijVtAZ6HLs7dvh	1.00
		2	112	R_8pltqXjJqvESe5z	1.00
		3	107	R_1QgaxD63LV2zN6O	1.00
		4	58	R_29jp1BhruLvclTz	1.00
		5	24	R_2B5HD0mXeSxpDnu	1.00 ^h
Job Satisfaction (JS)	Highest	1	9	R_22Ku8GI2fkEVNSJ	5.00
		2	51	R_2c0hONJcOsAdLlc	5.00
		3	128	R_1ikyNn5q7W8iu0d	5.00
		4	130	R_eLKEIqt6vKK7EK1	5.00
		5	141	R_2Y3xq0N2EriYeZ7	5.00 ^e
	Lowest	1	189	R_3nO9LlChITzU2US	1.00
		2	121	R_3kc8ATIdFrUdkT4	1.00
		3	107	R_1QgaxD63LV2zN6O	1.00
		4	65	R_1DGyrlhwjwGxY1k	1.00
		5	61	R_1I4MqnsplgIVN08	1.00 ^h
Organisational Commitment (OC)	Highest	1	51	R_2c0hONJcOsAdLlc	5.00
		2	123	R_1FIA2euB2xeswdB	5.00
		3	130	R_eLKEIqt6vKK7EK1	5.00
		4	141	R_2Y3xq0N2EriYeZ7	5.00
		5	157	R_6i2AnuTA3OX5kSl	5.00 ^e
	Lowest	1	107	R_1QgaxD63LV2zN6O	1.00
		2	32	R_1lnMAdrIZsKdMwZ	1.00
		3	19	R_3RwQ2hrZ9C4WkiY	1.00
		4	10	R_3kNvhAAIJJH7gX5	1.00
		5	7	R_XvqgsWxKg1pIsRH	1.00 ^h
Performance (Perf.)	Highest	1	83	R_3kM7bxRZ4luAZ1Y	10
		2	89	R_2E11rDx47J4mhn4	10
		3	104	R_2XpaEPObSVICDhX	10
		4	123	R_1FIA2euB2xeswdB	10
		5	126	R_AETiUUcYVDZptYt	10 ⁱ
	Lowest	1	31	R_12bDUKtm6fjimm1	3
		2	23	R_31sVJPr8Q9ksUQJ	3
		3	215	R_3Hu0g9aHHkAnPnK	4
		4	35	R_1hAR3A2Mpe8rSH7	4
		5	22	R_5pCGpKO55IhV5IZ	4 ^j
Mental/psychological Health (GHQ-12)	Highest	1	1	R_31HuDgIc09HPYW9	36.00
		2	2	R_1PcJz4oU4PUDMSG	34.00
		3	3	R_2U59CI14pk8QfL2	33.00
		4	4	R_D0PwnvCnX7eA31n	32.00
		5	5	R_415T73pjSepaEGR	31.00 ^k
	Lowest	1	284	R_27exIOqICn4LGgy	4.00
		2	283	R_3q7JAeCJIKuCtf8	4.00
		3	282	R_2wt1VLNfK71MQ7m	4.00
		4	281	R_1NwYcHwlSDs7bMm	5.00
		5	280	R_ZdULdlgxUfXD9Kx	5.00 ^l
Wellbeing (ONS)	Highest	1	258	R_6EyDu48e8CL111n	10.00
		2	263	R_A0d8TbF2rY3vD1L	10.00
		3	284	R_27exIOqICn4LGgy	10.00
		4	218	R_3oYnpc0tVc6Mtkd	9.50
		5	237	R_31FUk59IKeed7CD	9.50 ^m
	Lowest	1	38	R_3MDTnkcQ6LPX7Xb	.25
		2	31	R_12bDUKtm6fjimm1	1.25

Case Number		Response Id	Value
3	4	R_D0PwnvCnX7eA31n	1.25
4	7	R_XvqgsWxKg1pIsRH	1.50
5	35	R_1hAR3A2Mpe8rSH7	2.00

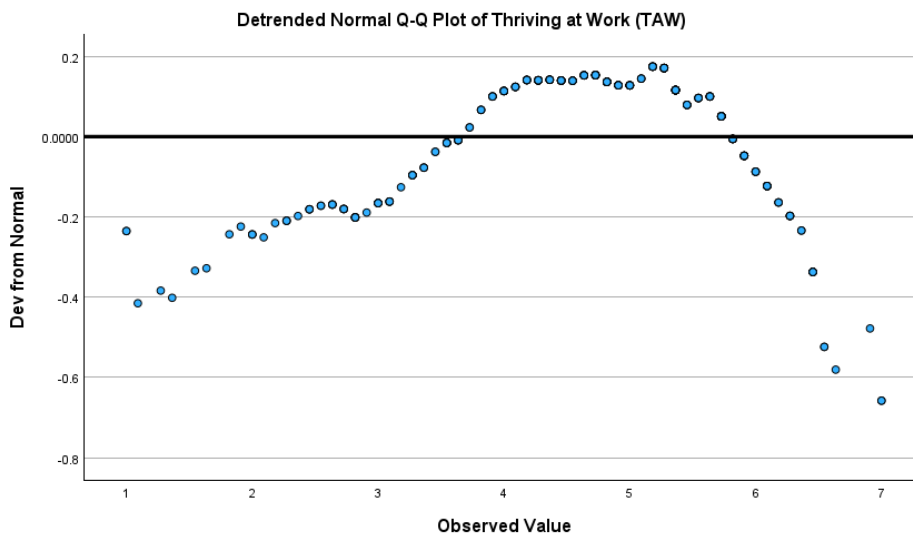
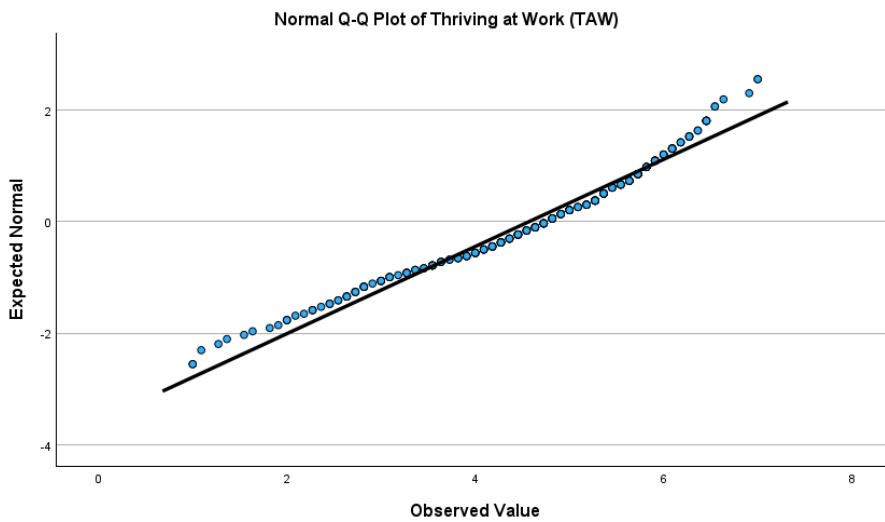
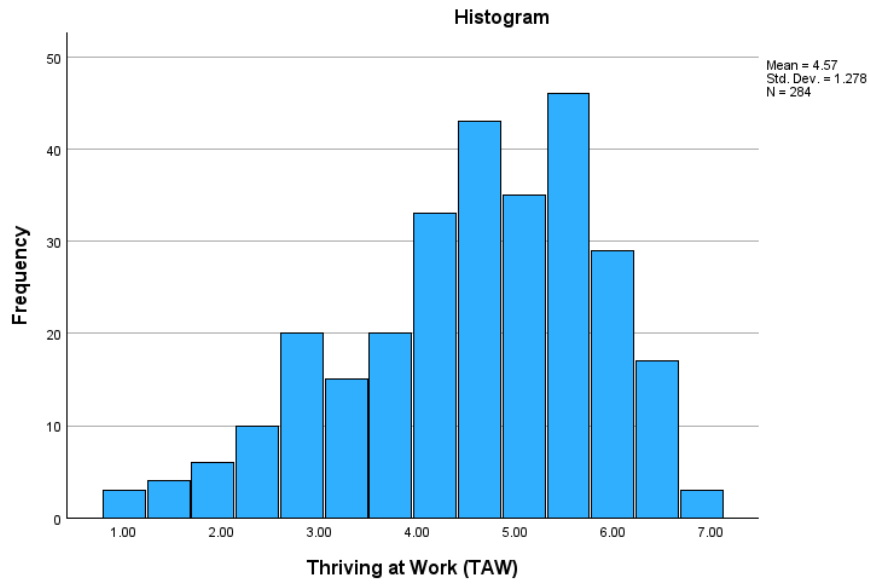
- a. Only a partial list of cases with the value 6.55 are shown in the table of upper extremes.
- b. Only a partial list of cases with the value 4.70 are shown in the table of upper extremes.
- c. Only a partial list of cases with the value 36.00 are shown in the table of upper extremes.
- d. Only a partial list of cases with the value 16.00 are shown in the table of lower extremes.
- e. Only a partial list of cases with the value 5.00 are shown in the table of upper extremes.
- f. Only a partial list of cases with the value 1.17 are shown in the table of lower extremes.
- g. Only a partial list of cases with the value 5.56 are shown in the table of upper extremes.
- h. Only a partial list of cases with the value 1.00 are shown in the table of lower extremes.
- i. Only a partial list of cases with the value 10 are shown in the table of upper extremes.
- j. Only a partial list of cases with the value 4 are shown in the table of lower extremes.
- k. Only a partial list of cases with the value 31.00 are shown in the table of upper extremes.
- l. Only a partial list of cases with the value 5.00 are shown in the table of lower extremes.
- m. Only a partial list of cases with the value 9.50 are shown in the table of upper extremes.

Appendix Table M.3 Tests of Normality for Study 3b

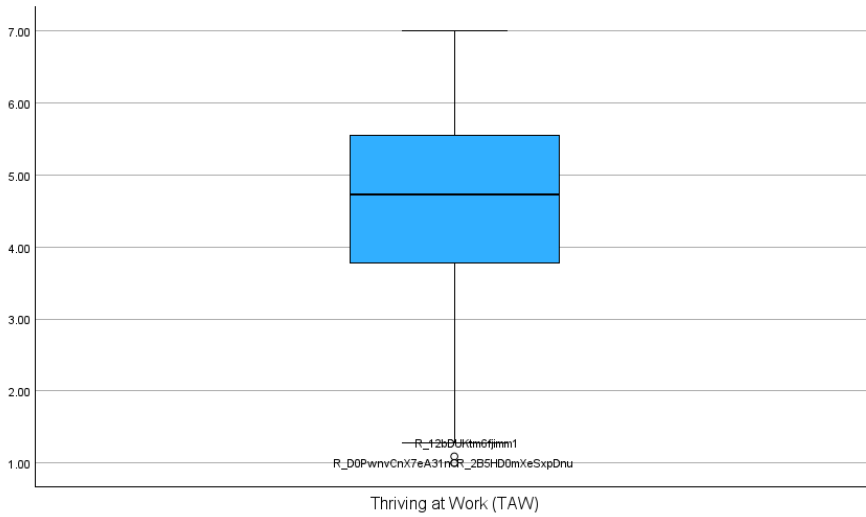
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Thriving at Work (TAW)	.078	284	<.001	.966	284	<.001
Thriving (BIT)	.146	284	<.001	.951	284	<.001
Resilience at Work (PsyCapR)	.083	284	<.001	.979	284	<.001
Resilience (BRS)	.121	284	<.001	.964	284	<.001
Work Engagement (UWES)	.074	284	<.001	.973	284	<.001
Career Satisfaction (CS)	.165	284	<.001	.918	284	<.001
Job Satisfaction (JS)	.236	284	<.001	.891	284	<.001
Organisational Commitment (OC)	.130	284	<.001	.968	284	<.001
Performance (Perf.)	.185	284	<.001	.939	284	<.001
Mental/psychological Health (GHQ-12)	.156	284	<.001	.907	284	<.001
Wellbeing (ONS)	.081	284	<.001	.975	284	<.001

a. Lilliefors Significance Correction

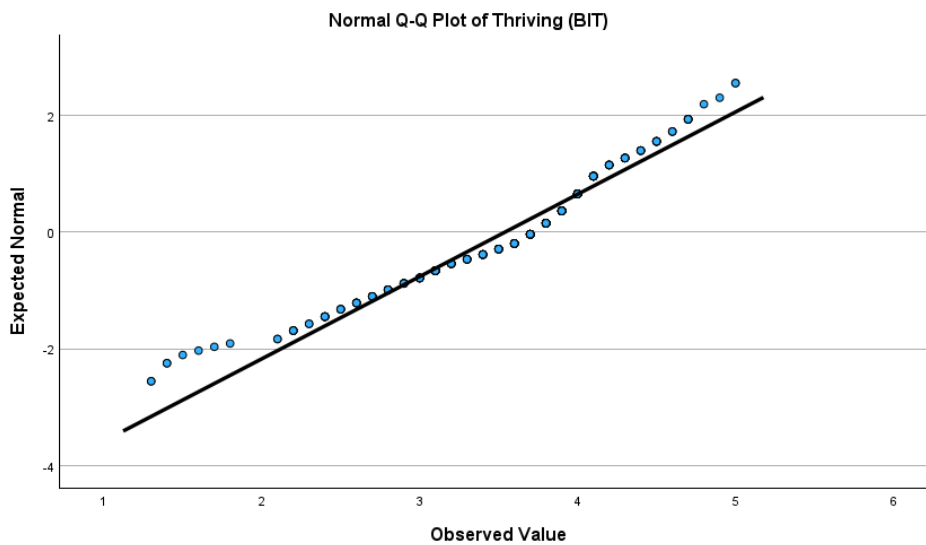
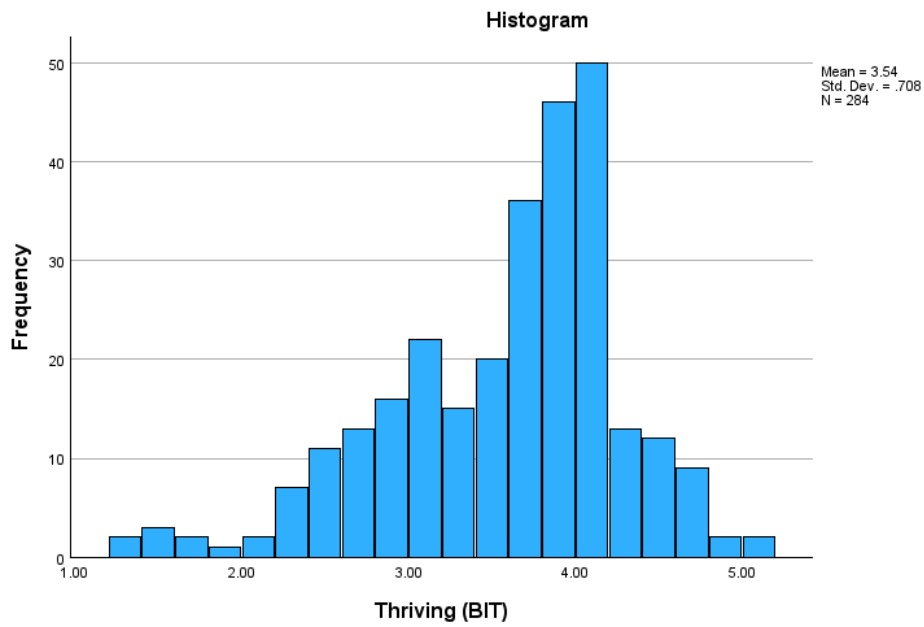
M.1 Normality Graphs for Thriving at Work (TAW) for Study 2b



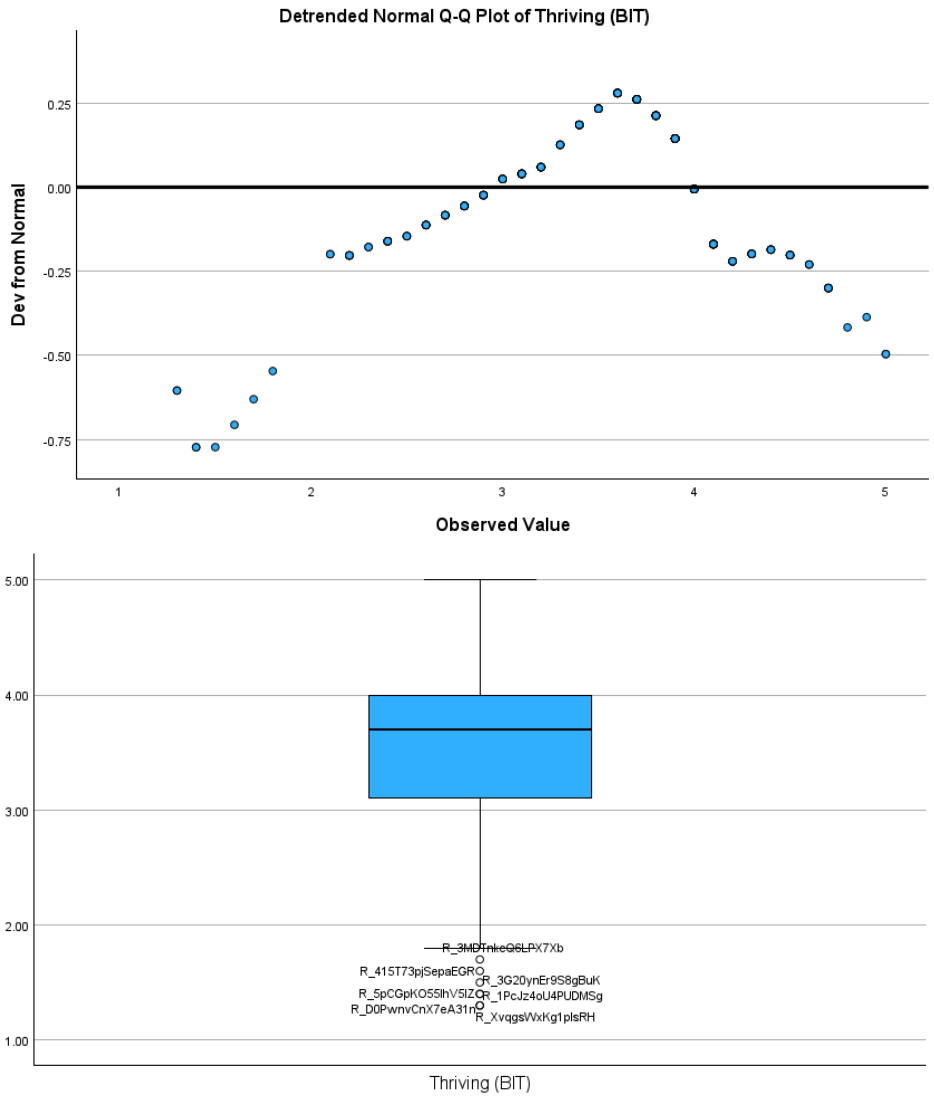
An Investigation Into the Relationship Between Resilience and Thriving at Work



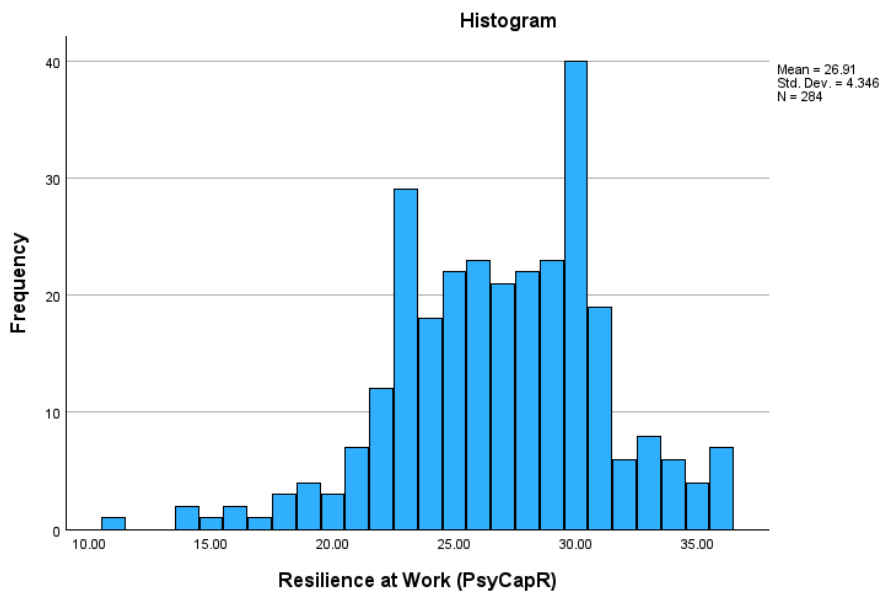
M.2 Normality Graphs for Thriving (BIT) for Study 2b



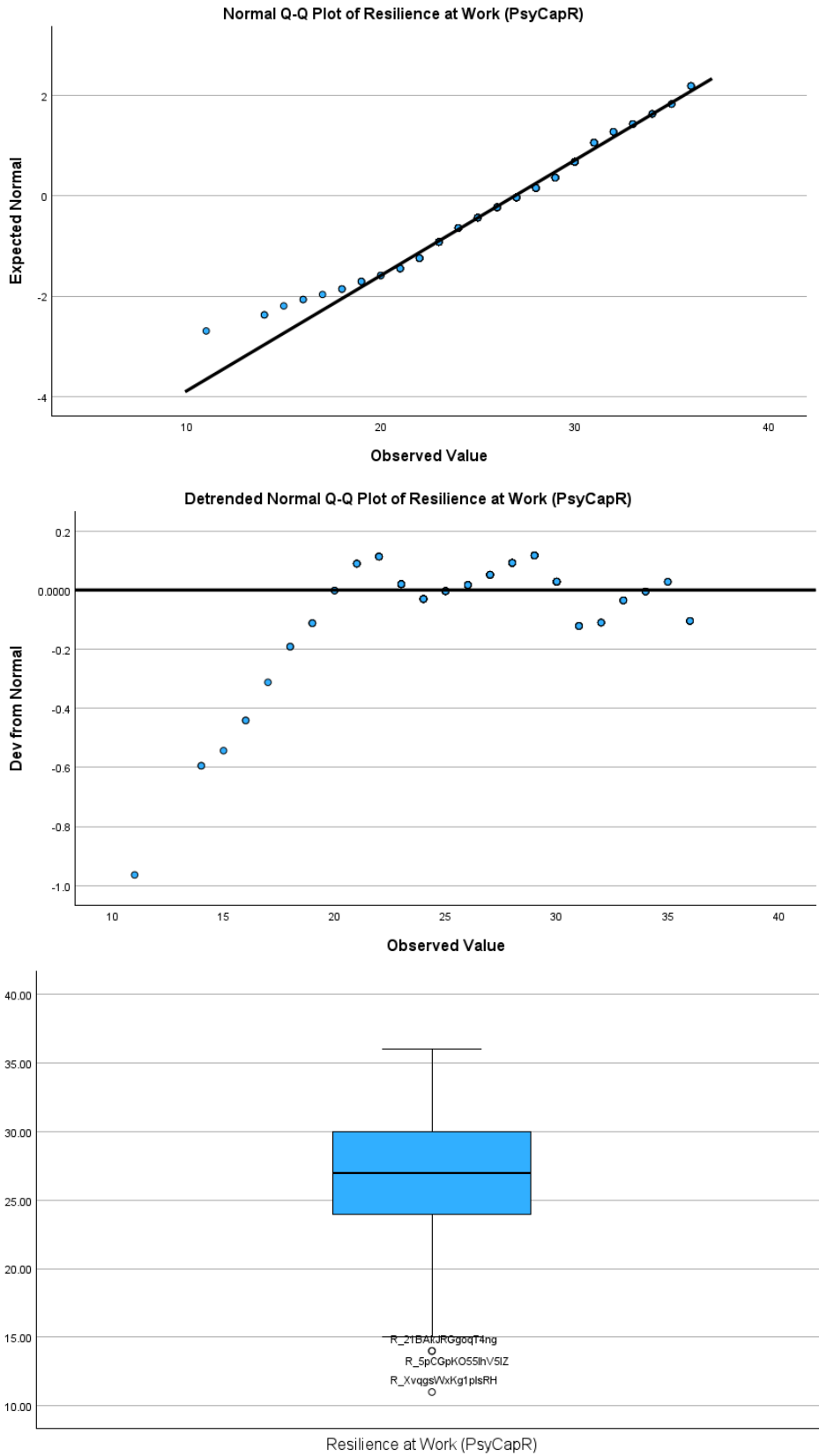
An Investigation Into the Relationship Between Resilience and Thriving at Work



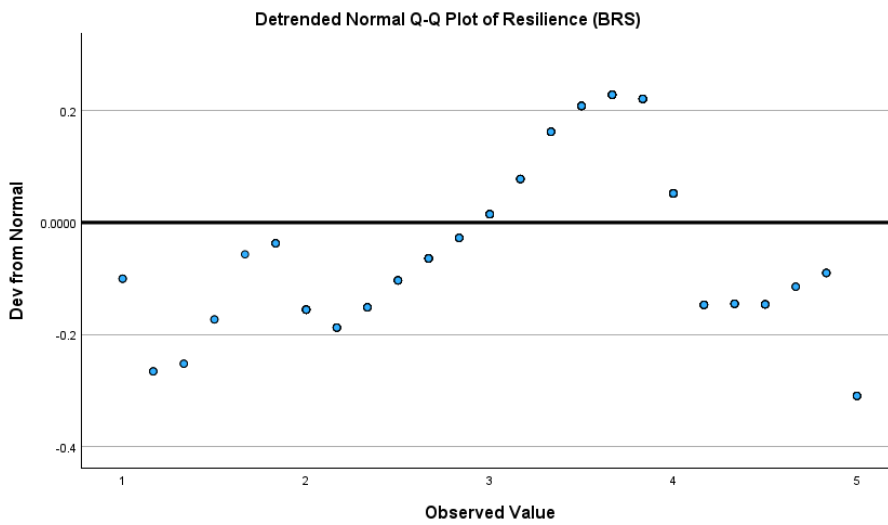
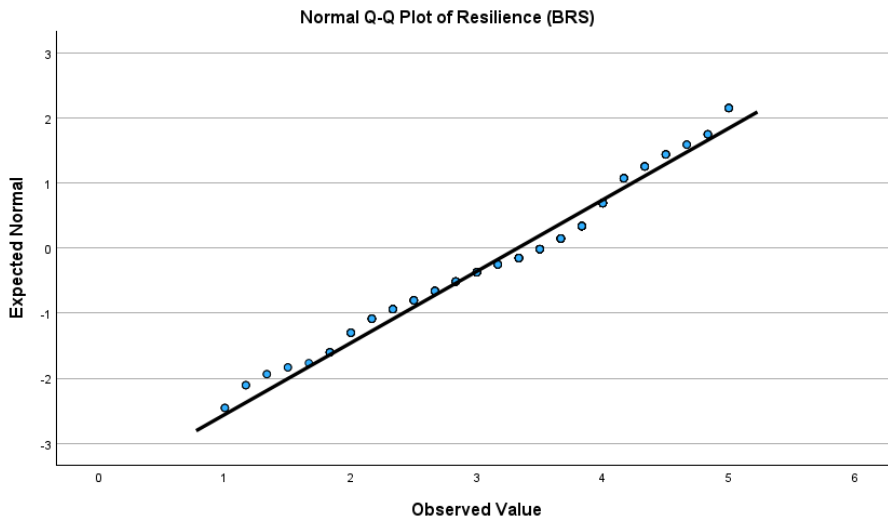
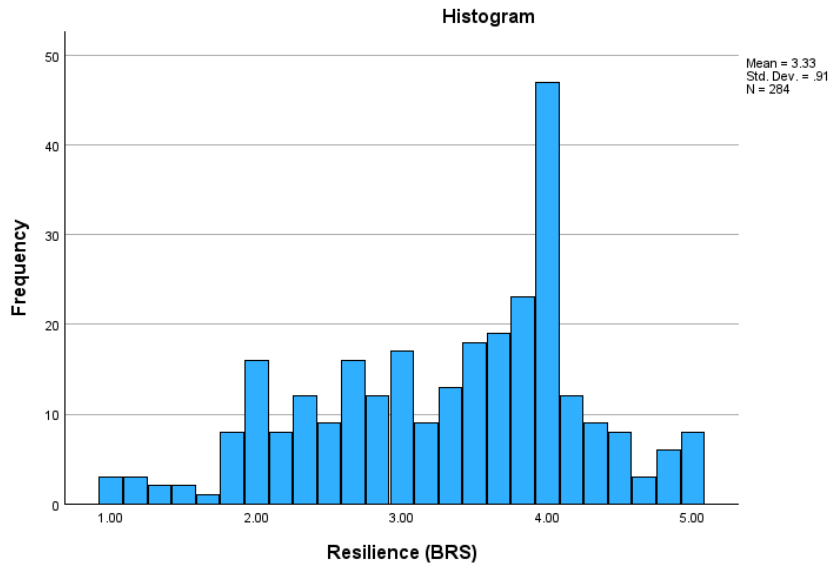
M.3 Normality Graphs for Resilience at Work (PsyCapR) for Study 2b



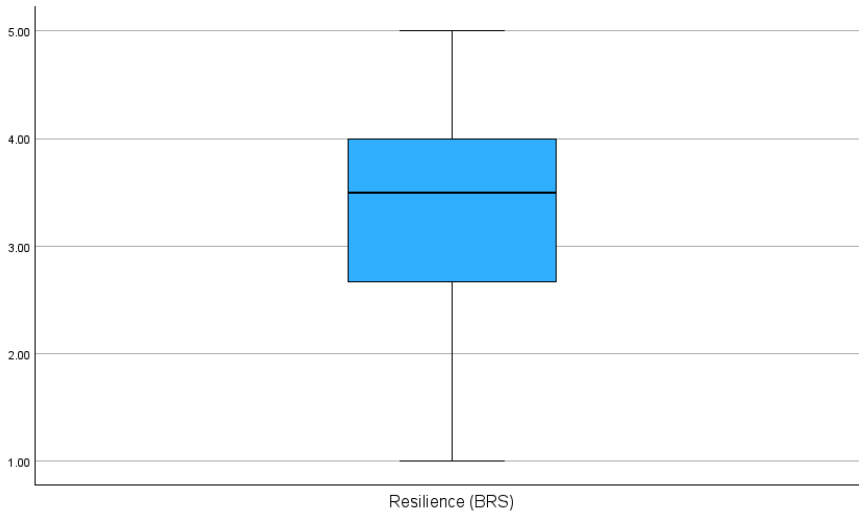
An Investigation Into the Relationship Between Resilience and Thriving at Work



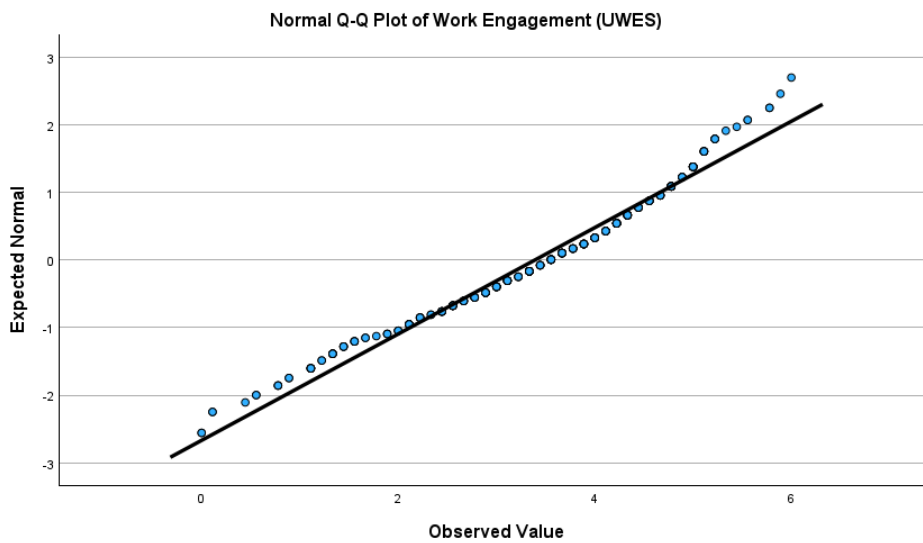
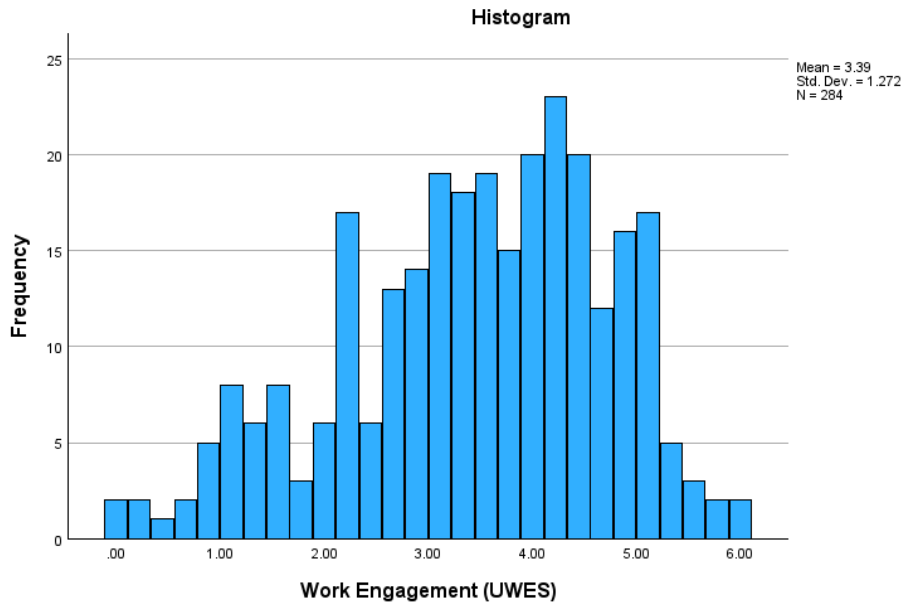
M.4 Normality Graphs for Resilience (BRS) for Study 2b



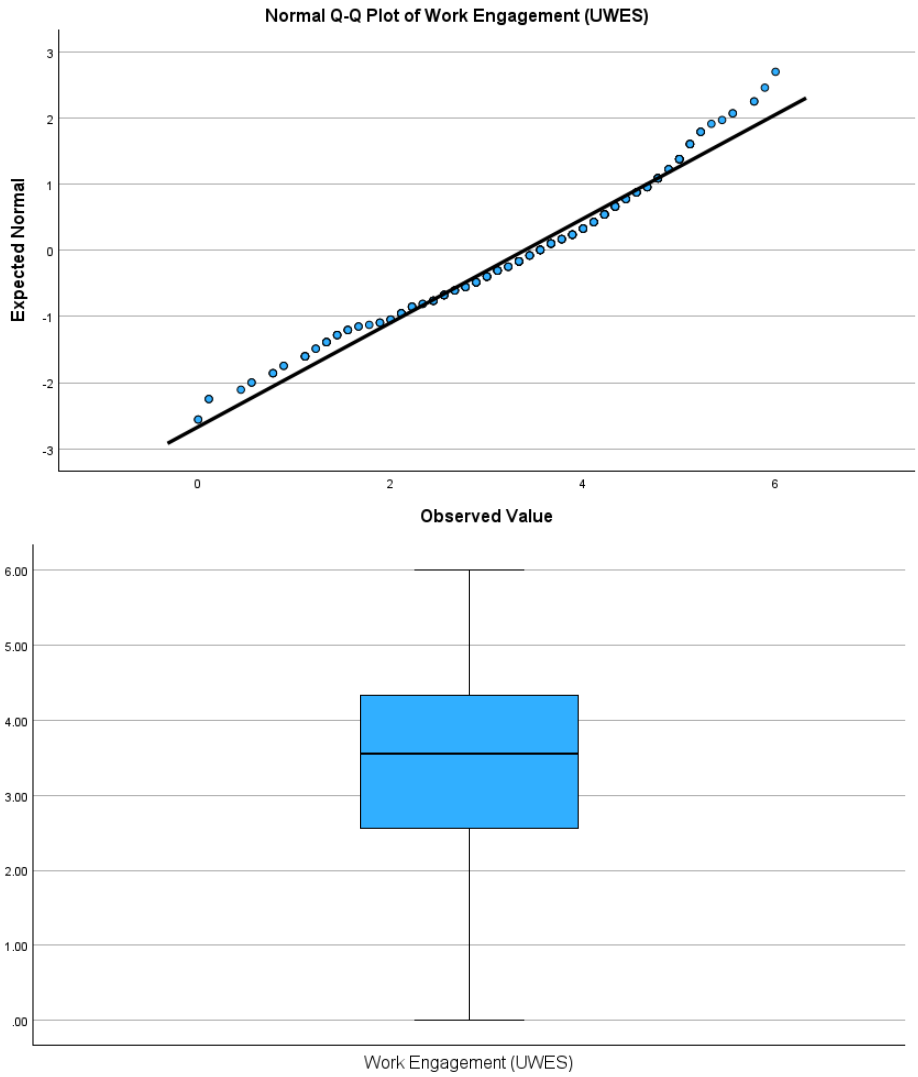
An Investigation Into the Relationship Between Resilience and Thriving at Work



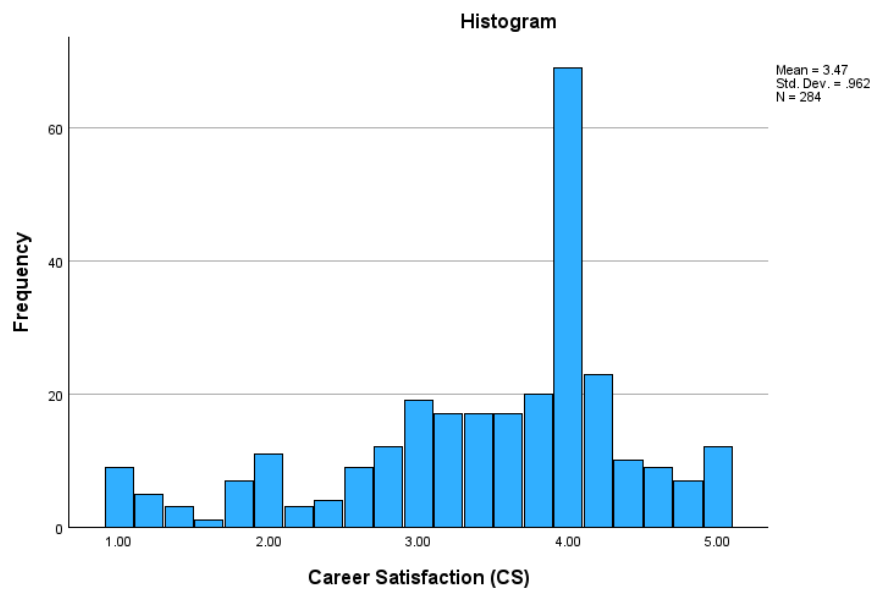
M.5 Normality Graphs for Work Engagement (UWES) for Study 2b



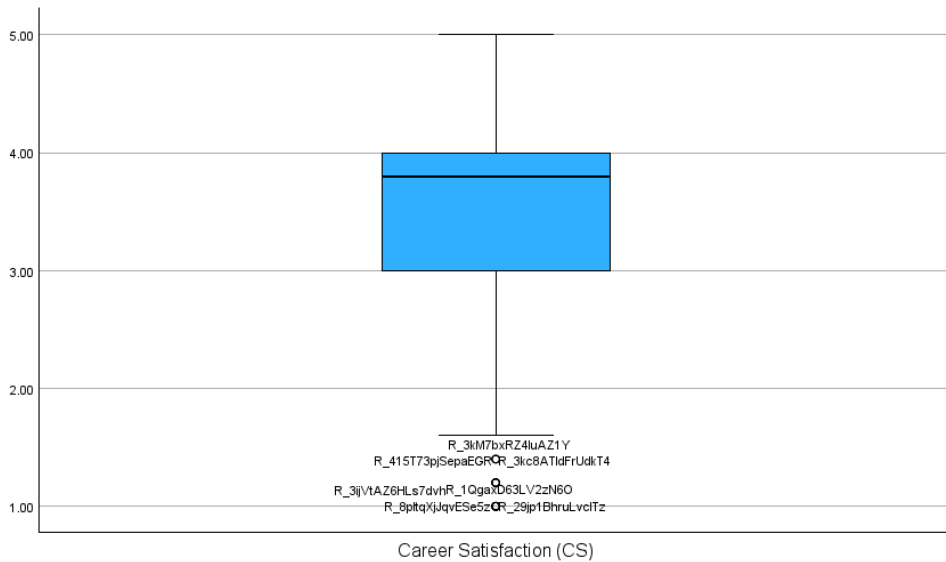
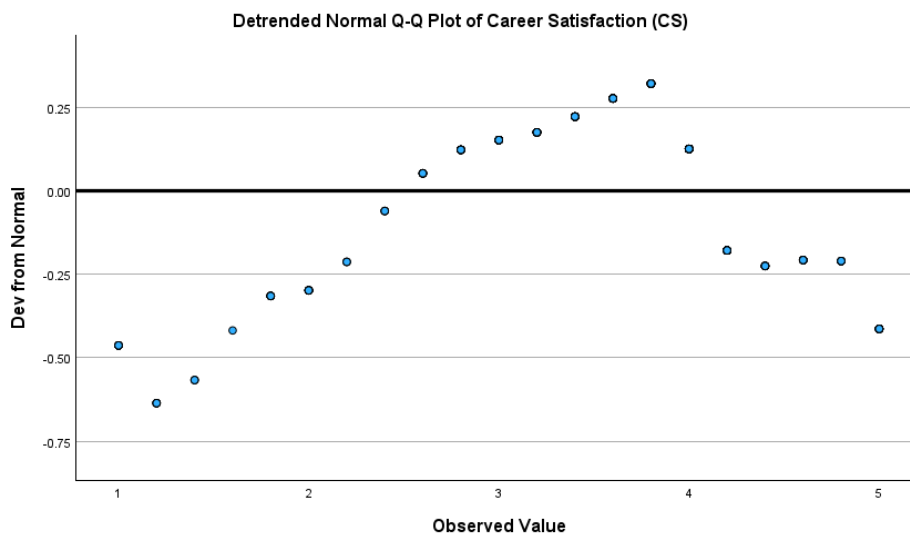
An Investigation Into the Relationship Between Resilience and Thriving at Work



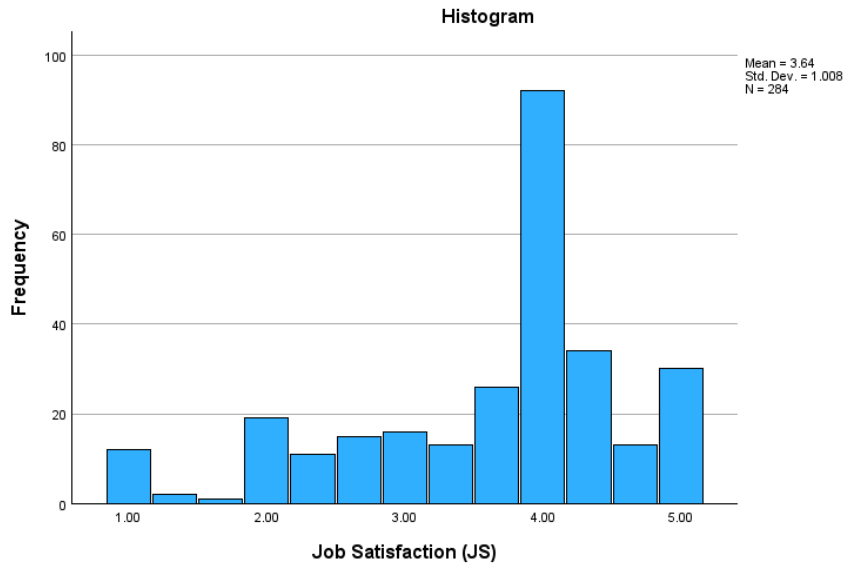
M.6 Normality Graphs for Career Satisfaction (CS) for Study 2b



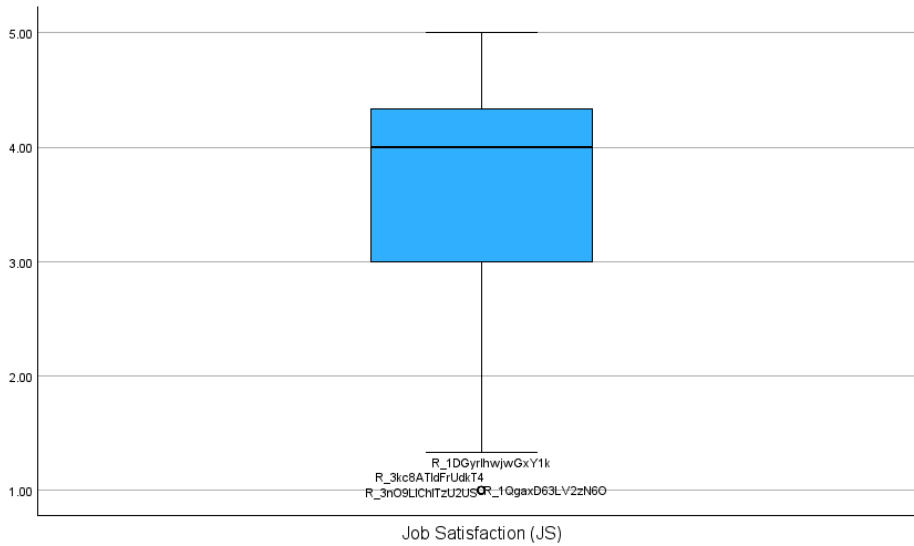
An Investigation Into the Relationship Between Resilience and Thriving at Work



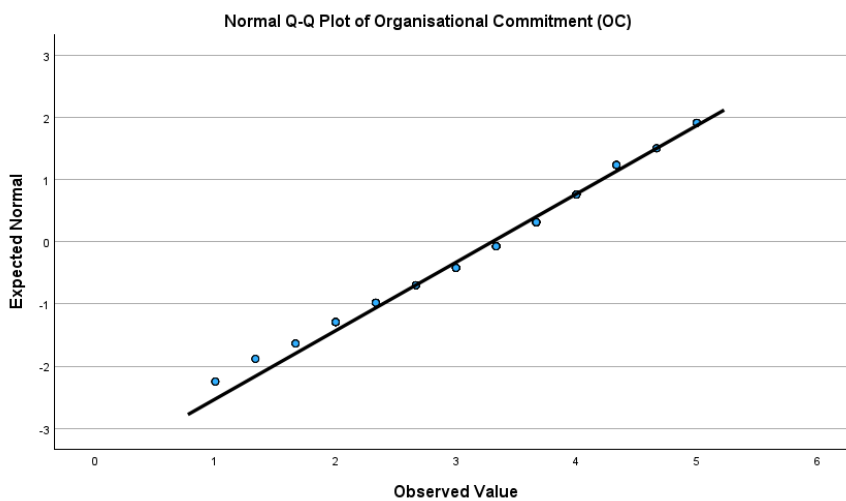
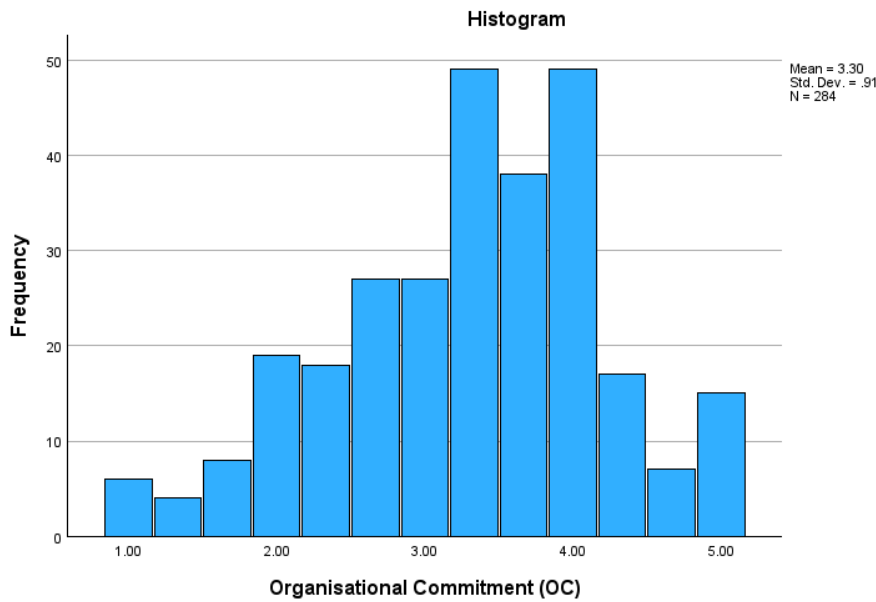
M.7 Normality Graphs for Job Satisfaction (JS) for Study 2b



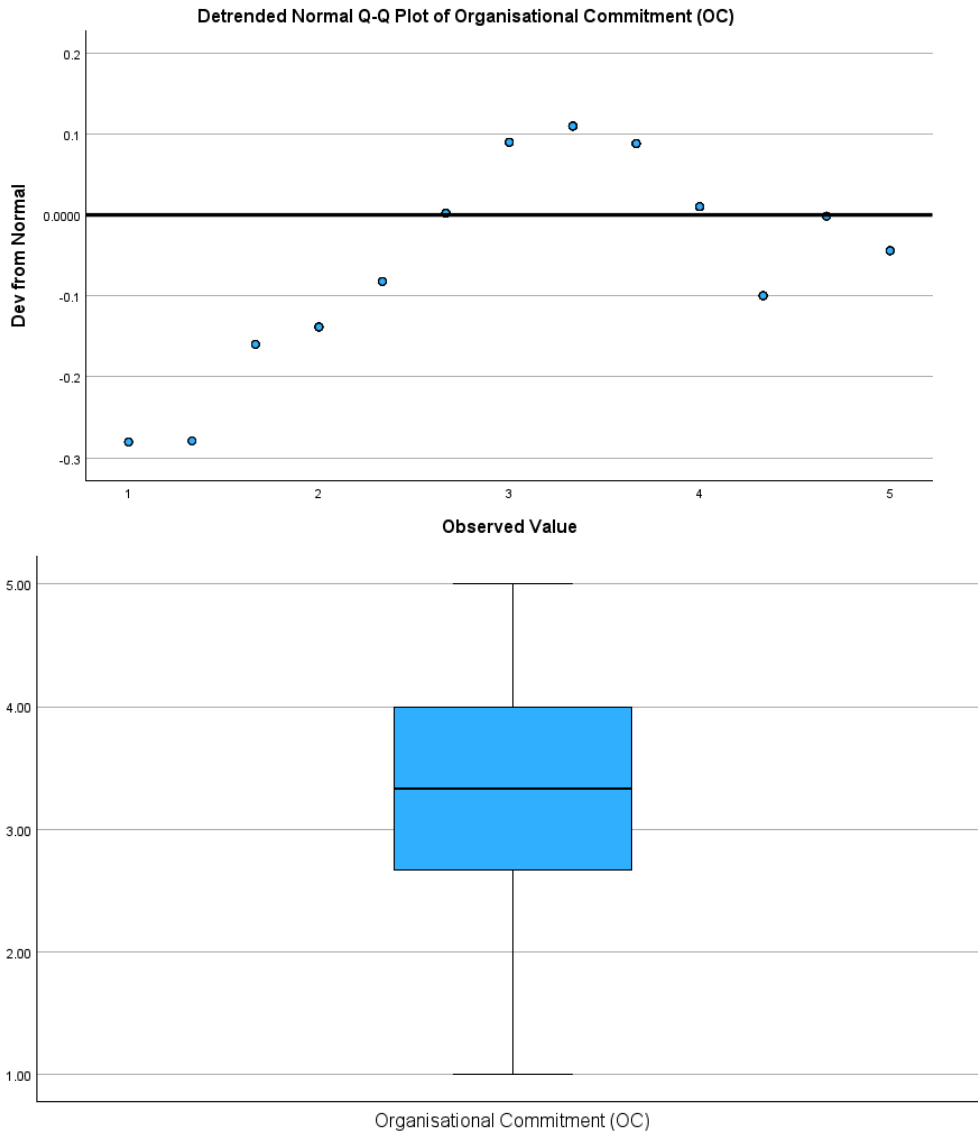
An Investigation Into the Relationship Between Resilience and Thriving at Work



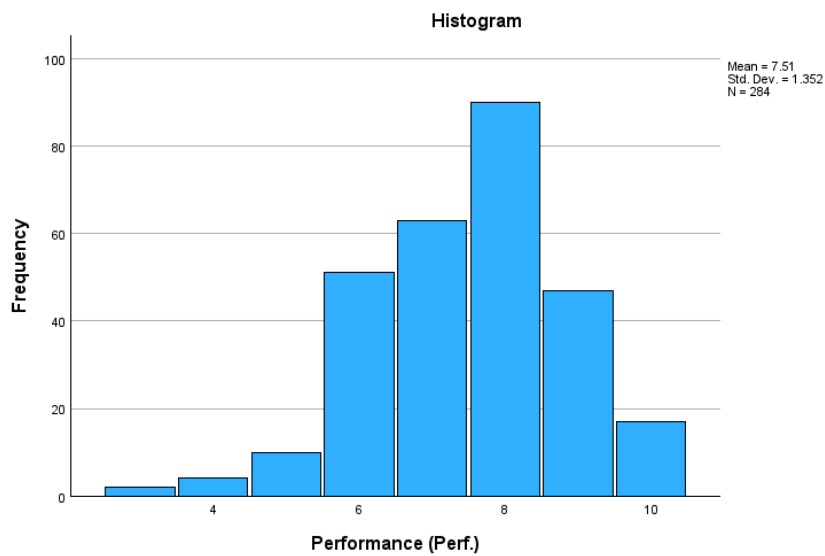
M.8 Normality Graphs for Organisational Commitment (OC) for Study 2b



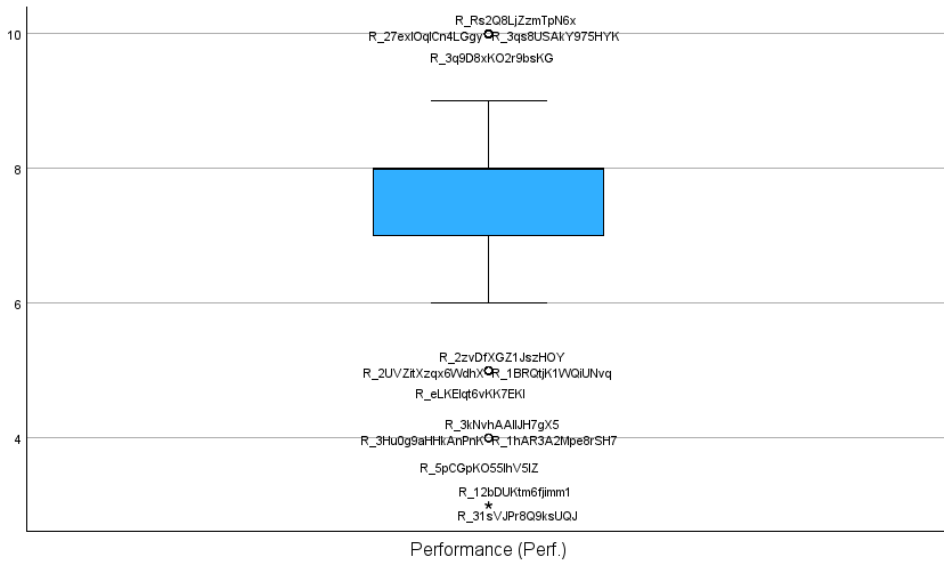
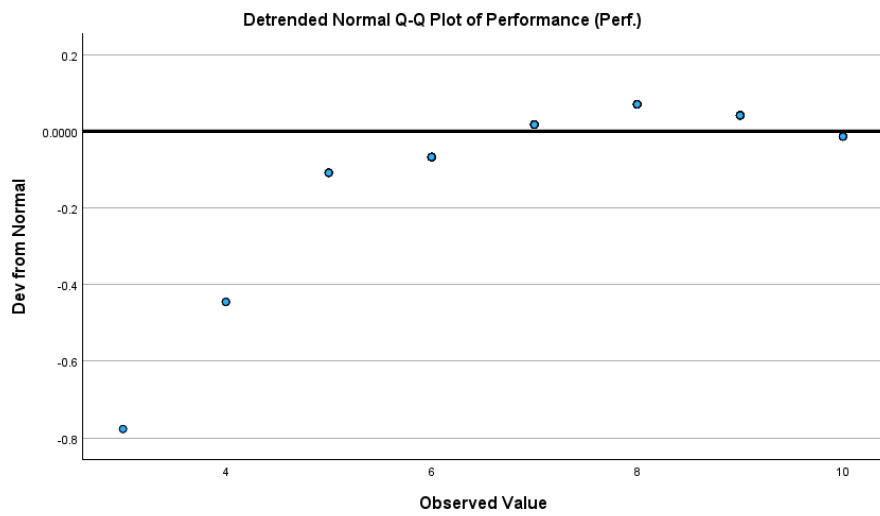
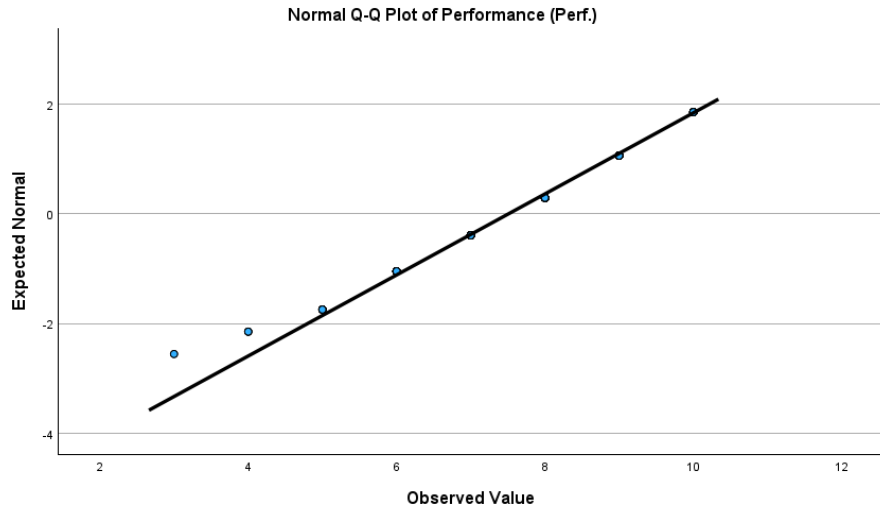
An Investigation Into the Relationship Between Resilience and Thriving at Work



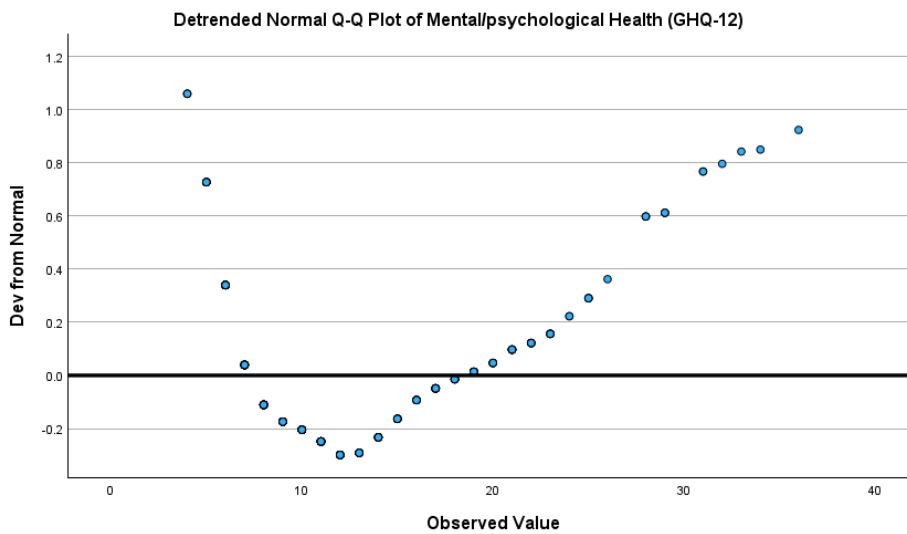
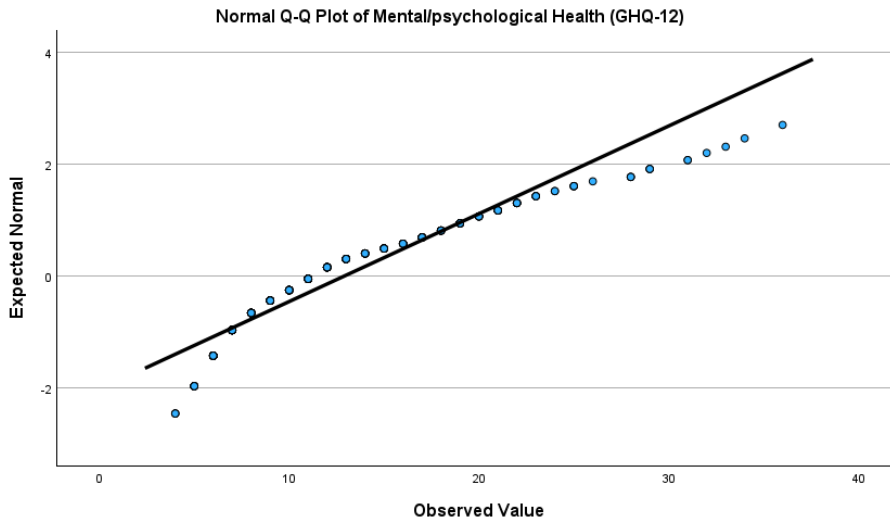
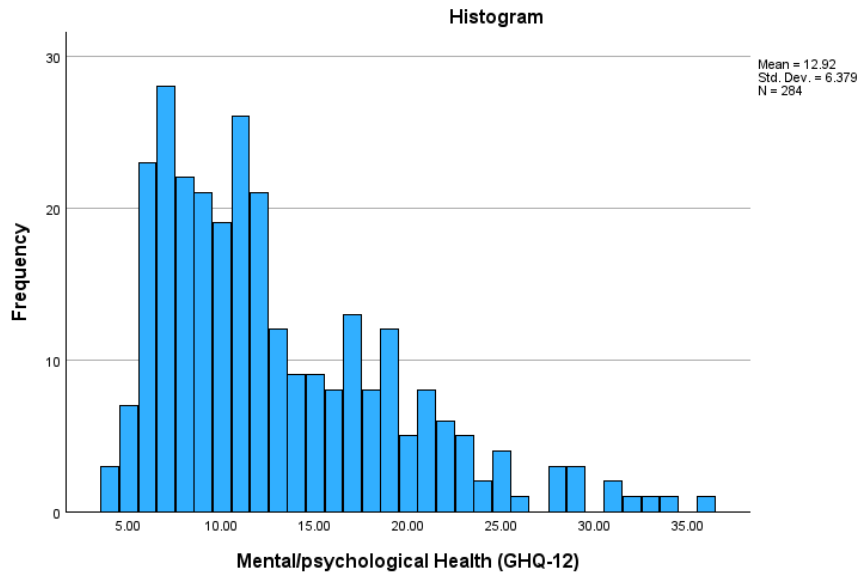
M.9 Normality Graphs for Performance for Study 2b



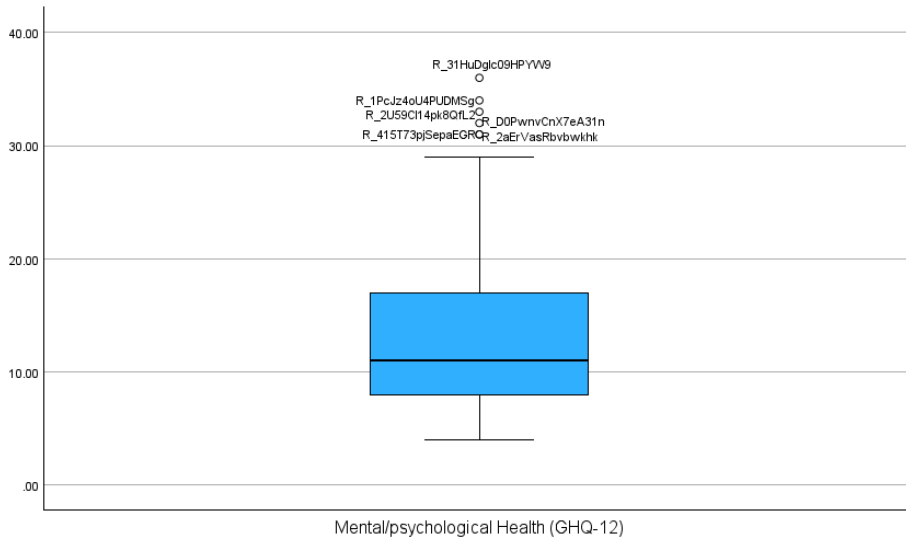
An Investigation Into the Relationship Between Resilience and Thriving at Work



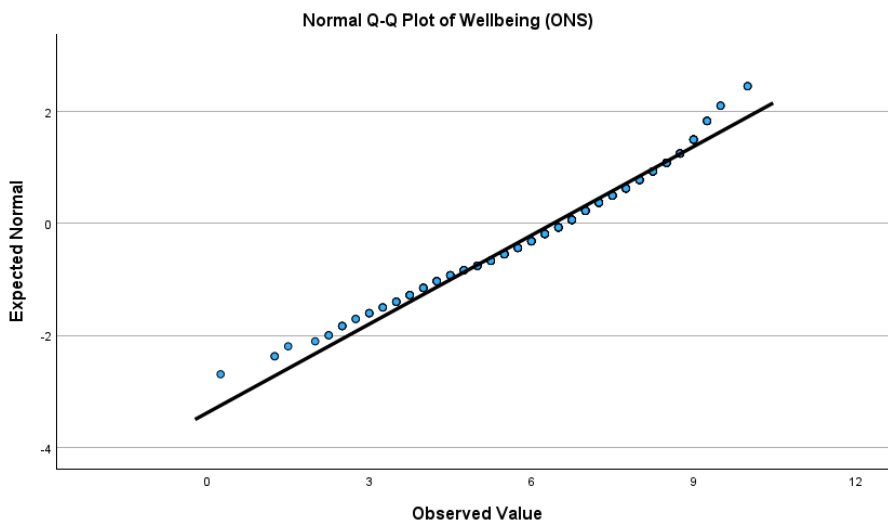
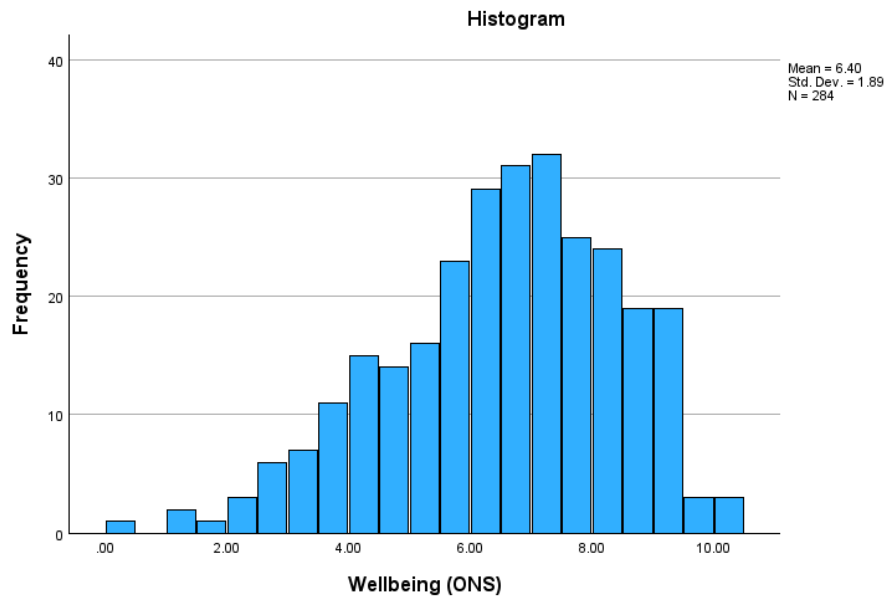
M.10 Normality Graphs for Mental/Psychological Health (GHQ-12) for Study 2b



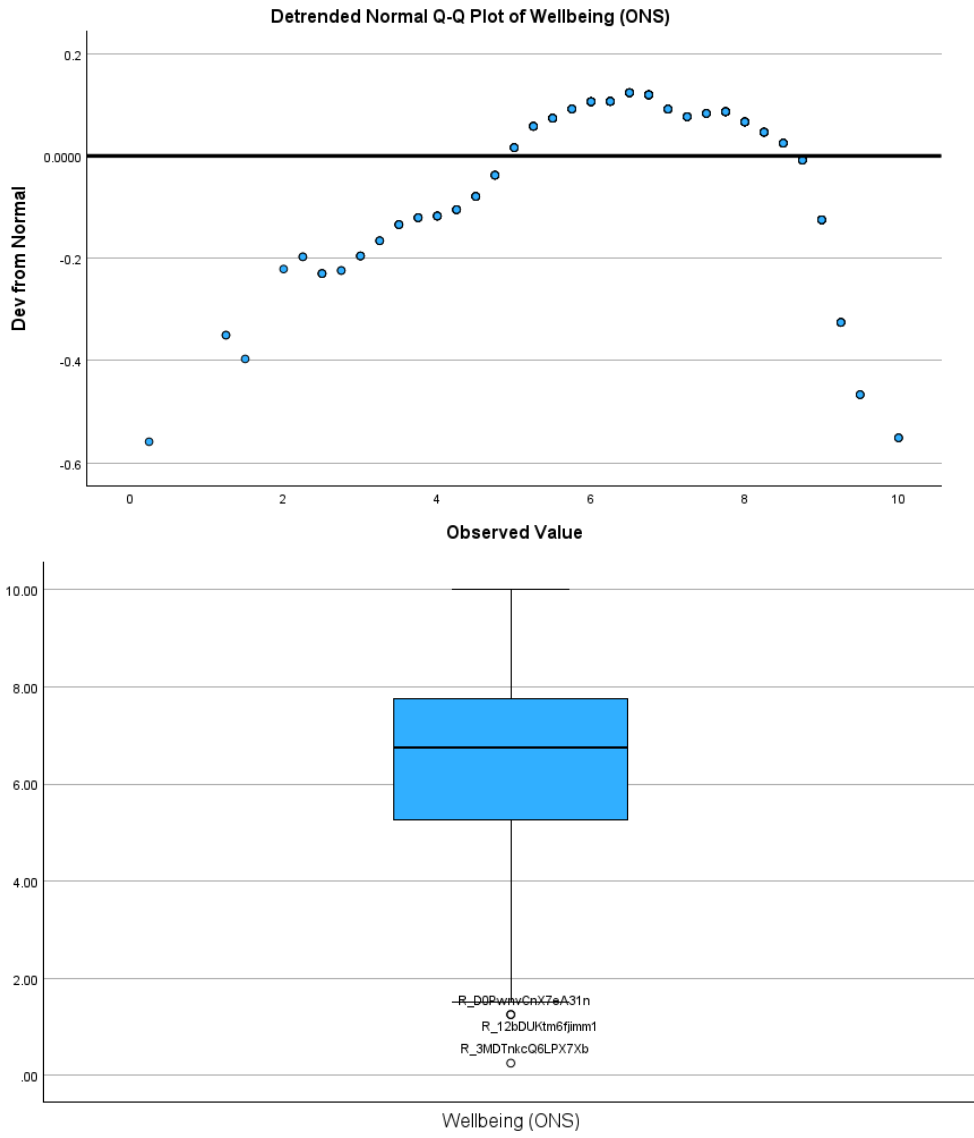
An Investigation Into the Relationship Between Resilience and Thriving at Work



M.11 Normality Graphs for Wellbeing (ONS) for Study 2b



An Investigation Into the Relationship Between Resilience and Thriving at Work



Appendix N

Semi-structured Interview Protocol (Critical Incident Technique)

Priming

One week in advance of the interview, a short email will be sent to participants outlining the questions below and requesting them to think in advance about situations they could describe during the interview.

Question 1:

Please describe a significant situation when you were particularly resilient at work.

A significant situation is a situation outside of routine events, which triggered you to take action, and which resulted in a positive outcome. Please think of a situation that you can easily remember.

Question 2:

Now please describe a significant situation when you struggled to be resilient at work.

Question 3:

Now please describe a significant situation when you were really thriving at work.

Question 4:

Finally, please describe a significant situation when you were struggling to thrive at work.

Question 5:

What relationship (if any) do you see between resilience and thriving at work?

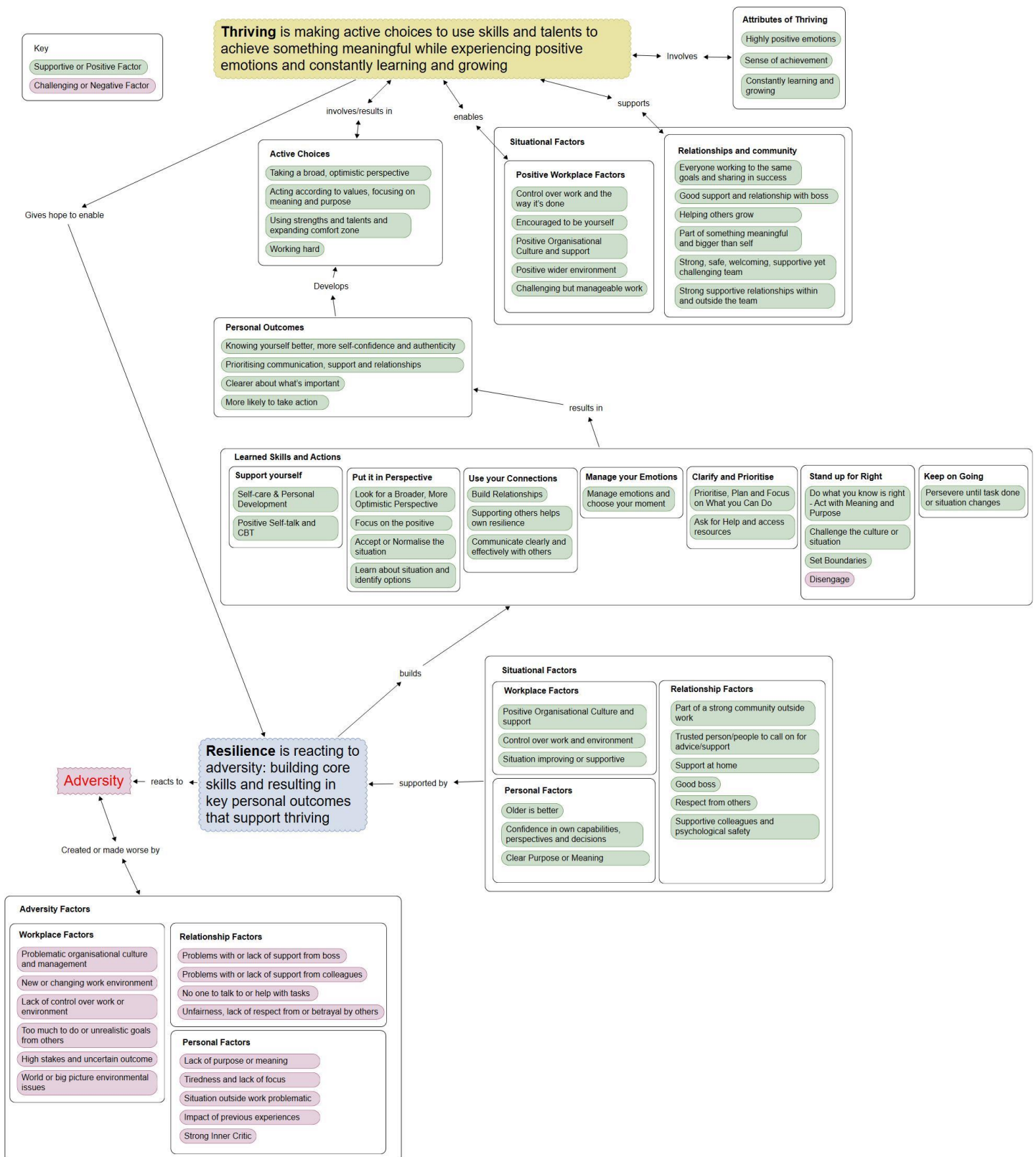
Possible clarification questions after each of the above questions:

Note: the interviewer will need to be flexible in asking for clarification, or exploring unexpected tangents

- What happened next?
- Who was involved?
- How did the work context impact your actions/feelings?
- What did you do?
- What was the outcome?
- How did that make you feel?
- How would you describe your behaviour in handling this situation?
- How did the work environment impact your resilience/thriving?
- What was driving these actions?
- What could have made the action more effective?
- How would you say your resilience impacted your thriving, or vice-versa, in this situation?

Appendix O

Full Initial Diagram of Factors Mentioned by Participants



Appendix P

Measures considered for Study 4

Scale	Source	Comment
Appraisal of Self-Care Agency Scale - Revised	Sousa, V. D., Zauszniewski, J. A., Bergquist-Beringer, S., Musil, C. M., Neese, J. B., & Jaber, A. F. (2010). Reliability, validity and factor structure of the Appraisal of Self-Care Agency Scale - Revised (ASAS-R). <i>Journal of Evaluation in Clinical Practice</i> , 16(6), 1031–1040. https://doi.org/10.1111/j.1365-2753.2009.01242.x And Xu, Y., Harmon-Darrow, C., & Frey, J. J. (2019). Rethinking professional quality of life for social workers: Inclusion of ecological self-care barriers. <i>Journal of Human Behavior in the Social Environment</i> , 29(1), 11–25. https://doi.org/10.1080/10911359.2018.1452814	
38 self-care assessment tools	El-Osta, A., Sasco, E. R., Barbanti, E., Webber, I., Alaa, A., Karki, M., Asmar, M. line El, Idriss, H., Almadi, M., Massoud, F., Alboksmaty, A., & Majeed, A. (2023). Tools for measuring individual self-care capability: a scoping review. <i>BMC Public Health</i> , 23(1), 1312. https://doi.org/10.1186/s12889-023-16194-6	Includes a detailed list of 38 self-care assessment tools. Very useful
The emotional labour scale	Brotheridge, C. M., & Lee, R. T. (2003). Development and validation of the emotional labour scale. <i>Journal of occupational and Organizational Psychology</i> , 76(3), 365–379.	
Persistence scale	Constantin, T., Holman, A., & Hojbotă, A. M. (2012). Development and validation of a motivational persistence scale. <i>Psihologija</i> , 45(2), 99–120. https://doi.org/10.2298/PSI1202099C	16 item persistence scale
Authenticity scale	Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., & Joseph, S. (2008). The Authentic Personality: A Theoretical and Empirical Conceptualization and the Development of the Authenticity Scale. <i>Journal of Counseling Psychology</i> , 55(3), 385–399. https://doi.org/10.1037/0022-0167.55.3.385	Almost right but not a work context. 12 items
EN-PS-20	Styk, W., Zmorzynski, S., & Samardakiewicz, M. (2023). Persistence Is Multi-Trait: Persistence Scale Development and Persistence Perseveration and Perfectionism Questionnaire into Polish Translation. <i>Brain Sciences</i> , 13(6), 864. https://doi.org/10.3390/brainsci13060864	20 item persistence scale
PPPQ-10	Styk, W., Zmorzynski, S., & Samardakiewicz, M. (2023). Persistence Is Multi-Trait: Persistence Scale Development and Persistence Perseveration and Perfectionism Questionnaire into Polish Translation. <i>Brain Sciences</i> , 13(6), 864. https://doi.org/10.3390/brainsci13060864	10 item persistence scale
Jackie's connection to values items	Personal communication, 3 Sept 2023	9 item values scale
Work and Meaning Inventory	Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring Meaningful Work: The Work and Meaning Inventory (WAMI). <i>Journal of Career Assessment</i> , 20(3), 322–337. https://doi.org/10.1177/1069072711436160	Well known, if want a work meaning scale

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Scale	Source	Comment
Responsibility & Closeness items from Auckland Individualism and Collectivism scale	Shulruf, B., Hattie, J., & Dixon, R. (2007). Development of a new measurement tool for individualism and collectivism. <i>Journal of Psychoeducational Assessment</i> , 25(4), 385–401. https://doi.org/10.1177/0734282906298992	Individualism vs collectivism: 6 item closeness scale might work for prioritising relationships
Personal Responsibility Scale - Wong	Arslan, G., & Wong, P. T. P. (2021). Measuring Personal and Social Responsibility: An Existential Positive Psychology Approach. <i>Journal of Happiness and Health</i> , 2(1), 1–11. https://doi.org/10.47602/johah.v2i1.5	Is accountability the same as authenticity? Don't think so. But relates to how values/morality impact life.
Individual Authenticity Measure at Work	van den Bosch, R., & Taris, T. W. (2014). Authenticity at Work: Development and Validation of an Individual Authenticity Measure at Work. <i>Journal of Happiness Studies</i> , 15(1), 1–18. https://doi.org/10.1007/s10902-013-9413-3	Yes, this is the one. A work measure of authenticity. 12 items
Organizational Belief System scale	Buchholz, R. A. (1978). An empirical study of contemporary beliefs about work in American society. <i>Journal of Applied Psychology</i> , 63(2), 219–227. https://doi.org/10.1037/0021-9010.63.2.219 And Hattrup, K., Ghorpade, J., & Lackritz, J. R. (2007). Work Group Collectivism and the Centrality of Work A Multinational Investigation. <i>Cross-Cultural Research</i> , 41(3), 236–260. https://doi.org/10.1177/1069397107301975	Another workgroup collectivism scale. May be useful for prioritising relationships but I don't think it's quite right.
Measures of communion striving	Barrick, M. R., Stewart, G. L., & Piotrowski, M. (2002). Personality and job performance: Test of the mediating effects of motivation among sales representatives. <i>Journal of Applied Psychology</i> , 87(1), 43–51. https://doi.org/10.1037/0021-9010.87.1.43	This one I think is better than the others for my purposes for prioritising relationships.
Team Psychological Safety Measure	Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. <i>Human Resource Management Review</i> , 27(3), 521–535. https://doi.org/10.1016/j.hrmr.2017.01.001	This measures environment Psychological Safety, not individual prioritising relationships. Not applicable for this study, but may be useful for future studies
Clear direction subscale	Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. <i>Human Resource Management Review</i> , 27(3), 521–535. https://doi.org/10.1016/j.hrmr.2017.01.001	Measures whether team goals are clear. Not applicable for this study but may be useful for future studies.
Work Autonomy scale	Breaugh, J. A. (1985). The Measurement of Work Autonomy. <i>Human Relations</i> , 38(6), 551–570. https://doi.org/10.1177/001872678503800604	Measures how employee feels about levels of autonomy. Not the same as authenticity but could be useful in future
New General Self-efficacy scale	Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. <i>Organizational Research Methods</i> , 4(1), 62–83. https://doi.org/10.1177/109442810141004	Very related to authenticity but not in a work setting. Consider.

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Scale	Source	Comment
Occupational Self-Efficacy Scale	Schyns, B., & von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. <i>European Journal of Work and Organizational Psychology</i> , 11(2), 219–241. https://doi.org/10.1080/13594320244000148	Work-related self-efficacy. Very focused on work, but 20 items so too long.
General Self-Efficacy scale	Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, <i>Measures in health psychology: A user's portfolio. Causal and control beliefs</i> (pp. 35-37). Windsor, UK: NFER-NELSON.	10 item general self-efficacy scale. Useful but not in a work context.
Rosenberg Self-esteem scale	Rosenberg, M. (1965). <i>Society and the adolescent self-image</i> . Princeton university press. Princeton University Press.	Another way of thinking about authenticity. But not a work focus
Proactive personality scale	Bateman, T. S., & Crant, J. M. (1993). <i>The Proactive Component of Organizational Behavior: A Measure and Correlates</i> Author (s): Thomas S . Published by: Wiley Stable URL: http://www.jstor.org/stable/2488028	Measuring proactivity, but not at work
Proactive behaviours scale	Bateman, T. S., & Crant, J. M. (1993). <i>The Proactive Component of Organizational Behavior: A Measure and Correlates</i> Author (s): Thomas S . Published by: Wiley Stable URL:	Work focused scale but taken by colleague not individual. Rating someone else. Could be adapted if necessary.
Personal Initiative Scale	Bateman, T. S., & Crant, J. M. (1993). <i>The Proactive Component of Organizational Behavior: A Measure and Correlates</i> Author (s): Thomas S . Published by: Wiley Stable URL: http://www.jstor.org/stable/2488028	Self-report initiative scale. Doesn't capture the ideas I'm looking for but could be useful in future.
Supplier Perspective Taking	Parker, S. K., & Axtell, C. M. (2001). Seeing Another Viewpoint: Antecedents and Outcomes of Employee Perspective Taking. <i>Academy of Management Journal</i> , 44(6), 1085–1100. https://doi.org/10.5465/3069390	Measures empathy for co-workers who supply things they work on. Too specific to that company
Employee Empowerment	Spreitzer, G. M. (1995). Psychological, empowerment in the workplace: Dimensions, measurement and validation. <i>Academy of Management Journal</i> , 38(5), 1442–1465. https://doi.org/10.2307/256865	Measures meaning, competence, self-determination, and impact. Could be a good choice
Calling scale	Bunderson, J. S., & Thompson, J. A. (2009). The Call of the Wild: Zookeepers , Callings , and the Double-Edged Sword of Deeply Meaningful Work Author (s): J . Stuart Bunderson and Jeffery A . Thompson Published by: Sage Publications , Inc . on behalf of the Johnson Graduate School of Management. 54(1), 32–57.	Measures calling: passion for work. Related to but not the same as Work Engagement
Organisation empowerment scale	Matthews, R. A., Michelle Diaz, W., & Cole, S. G. (2003). The organizational empowerment scale. <i>Personnel Review</i> , 32(3), 297-318+393. https://doi.org/10.1108/00483480310467624	Measures organisational context. Not for this study but useful for other studies looking at organisational context.
Organisational Citizenship Behaviour Scale	Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. <i>The Leadership Quarterly</i> , 1(2), 107–142. https://doi.org/10.1016/1048-9843(90)90009-7	Altruism subscale could be useful - measures how far person goes out of their way to help others. Related to but not the same as prioritising relationships

Scale	Source	Comment
Cooperation subscale of Prosocial Service Behaviours	Bettencourt, L. A., & Brown, S. W. (1997). Contact employees: Relationships among workplace fairness, job satisfaction and prosocial service behaviors. <i>Journal of Retailing</i> , 73(1), 39–61. https://doi.org/10.1016/S0022-4359(97)90014-2	Again, measures how far person goes out of their way to help others. Related to but not the same as prioritising relationships
Trust in/Loyalty to Leader scale	Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. <i>The Leadership Quarterly</i> , 1(2), 107–142. https://doi.org/10.1016/1048-9843(90)90009-7	This is focused on leadership behaviours, environment/relationship factor not individual factor.
Valued Living Subscale from Engaged Living Scale	Trompetter, H. (2014). Act With Pain. And Heblich, B., Terzidis, O., González M, M., Kuschel, K., Mukadam, M., & Birkenbach, M. (2023). Living well: Empirically developed structural equation model for healthy and effective self-regulation. <i>International Journal of Clinical and Health Psychology</i> , 23(4). https://doi.org/10.1016/j.ijchp.2023.100375	16 item scale. Measures how far one is living according to one's values. Not work related.
Perceived Organisational Support Scale	Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. <i>Journal of Applied Psychology</i> , 71(3), 500–507. https://doi.org/10.1037/0021-9010.71.3.500	Measures organisational context. Not for this study but useful for other studies looking at organisational context.
Professional Self-care scale	Galiana, L., Oliver, A., Sansó, N., & Benito, E. (2015). Validation of a New Instrument for Self-care in Spanish Palliative Care Professionals Nationwide. <i>The Spanish Journal of Psychology</i> , 18, E67. https://doi.org/10.1017/SJP.2015.71	Measures self-care. Not work related. Useful for future studies?
Perceived Stress Scale	Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. <i>Journal of Health and Social Behavior</i> , 24(4), 385–396.	Not sure I need to measure perceived stress. Not a mediating factor in the framework.
Relational Climate Scale	Boyatzis, R. E., & Rochford, K. (2020). Relational climate in the workplace: Dimensions, measurement, and validation. <i>Frontiers in Psychology</i> , 11(February), 1–15. https://doi.org/10.3389/fpsyg.2020.00085	Suggested by Boyatzis as related to prioritising relationships at work. But actually measures emotional climate - contextual factor. Again, useful for other studies looking at organisational context.
Effort-Reward Imbalance Scale	Peters, S. C., & Hopkins, K. (2014). Validation of the use of the effort-reward imbalance scale in human services using confirmatory factor analysis. <i>Journal of the Society for Social Work and Research</i> , 5(4), 565–587. https://doi.org/10.1086/678922	3 subscales: effort, reward, overcommitment. Mixture of context and personal assessment of coping. Useful for future studies?

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Scale	Source	Comment
Sense of Coherence Scale	Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. <i>Social Science & Medicine</i> , 36(6), 725–733. https://doi.org/10.1016/0277-9536(93)90033-Z and Eriksson, M., & Mittelmark, M. B. (2017). The sense of coherence and its measurement. In M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindström, & G. A. Espnes (Eds.), <i>The handbook of salutogenesis</i> (pp. 97–106). Springer. https://doi.org/10.1007/978-3-319-04600-6_12	Good short scale (13 items) or medium scale (29 items) to measure Sense of Coherence. Good option for the clarity part of the framework?
Ryff's Personal Well-being Scale	Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. <i>Journal of Personality and Social Psychology</i> , 69(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719	Six sub-factors, all relevant. Looks good but too long? 18 item might work, but only 3 items per sub-factor...
Coping Self-efficacy scale	Chesney et al., 2006	Looks good but too long? 24 items

Appendix Q
Demographics for Study 4

Appendix Table Q.1 Age for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	8	3.3	3.3	3.3
	25-34	69	28.6	28.6	32.0
	35-44	82	34.0	34.0	66.0
	45-54	57	23.7	23.7	89.6
	55-64	20	8.3	8.3	97.9
	65-74	5	2.1	2.1	100.0
	Total	241	100.0	100.0	

Appendix Table Q.2 Gender for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	119	49.4	49.4	49.4
	Female	122	50.6	50.6	100.0
	Total	241	100.0	100.0	

Appendix Table Q.3 Ethnicity for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	212	88.0	88.7	88.7
	Black/African/Caribbean	6	2.5	2.5	91.2
	Asian (Indian, Pakistani, Bangladeshi, Chinese, any other Asian background)	17	7.1	7.1	98.3
	Mixed two or more ethnic groups	3	1.2	1.3	99.6
	Other (Arab or any others)	1	.4	.4	100.0
	Total	239	99.2	100.0	
Missing	System	2	.8		
Total		241	100.0		

Appendix Table Q.4 Full or Part Time for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full Time	222	92.1	92.1	92.1
	Part Time	19	7.9	7.9	100.0
	Total	241	100.0	100.0	

Appendix Table Q.5 Manager for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	125	51.9	51.9	51.9
	No	116	48.1	48.1	100.0
	Total	241	100.0	100.0	

Appendix Table Q.6 Length of time in Job for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	14	5.8	5.8	5.8
	6 months to 1 year	11	4.6	4.6	10.4
	1-2 years	25	10.4	10.4	20.7
	2-3 years	37	15.4	15.4	36.1
	3-4 years	19	7.9	7.9	44.0
	4-5 years	15	6.2	6.2	50.2
	5+ years	120	49.8	49.8	100.0
	Total	241	100.0	100.0	

Appendix Table Q.7 Level of Job Stress for Study 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all stressful	23	9.5	9.5	9.5
	Mildly stressful	95	39.4	39.4	49.0
	Moderately stressful	89	36.9	36.9	85.9
	Very stressful	25	10.4	10.4	96.3
	Extremely stressful	8	3.3	3.3	99.6
	7	1	.4	.4	100.0
	Total	241	100.0	100.0	

Appendix R
Data Normality Tests for Study 4

Appendix Table R.1 Descriptives for Study 4

		Statistic	Std. Error	
Thriving at Work (TAW)	Mean	4.5553	.08509	
	95% Confidence Interval for Mean	Lower Bound	4.3876	
		Upper Bound	4.7229	
	5% Trimmed Mean	4.5867		
	Median	4.7273		
	Variance	1.745		
	Std. Deviation	1.32099		
	Minimum	1.27		
	Maximum	7.00		
	Range	5.73		
	Interquartile Range	1.86		
	Skewness	-.397	.157	
	Kurtosis	-.546	.312	
	Resilience at Work (PsyCapR)	Mean	27.44	.273
95% Confidence Interval for Mean		Lower Bound	26.90	
		Upper Bound	27.98	
5% Trimmed Mean		27.56		
Median		28.00		
Variance		17.922		
Std. Deviation		4.233		
Minimum		13		
Maximum		36		
Range		23		
Interquartile Range		5		
Skewness		-.421	.157	
Kurtosis		.382	.312	
Prioritising Relationships (CS)		Mean	3.0655	.04198
	95% Confidence Interval for Mean	Lower Bound	2.9828	
		Upper Bound	3.1482	
	5% Trimmed Mean	3.0794		
	Median	3.0000		
	Variance	.425		
	Std. Deviation	.65178		
	Minimum	1.00		
	Maximum	4.89		
	Range	3.89		
	Interquartile Range	.78		
	Skewness	-.254	.157	
	Kurtosis	.535	.312	
	Authenticity at Work (IAMW)	Mean	55.71	.688
95% Confidence Interval for Mean		Lower Bound	54.35	
		Upper Bound	57.06	
5% Trimmed Mean		56.06		
Median		57.00		
Variance		114.084		
Std. Deviation		10.681		
Minimum		20		
Maximum		82		
Range		62		

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		Statistic	Std. Error	
Sense of Coherence (SoC)	Interquartile Range	12		
	Skewness	-.589	.157	
	Kurtosis	.669	.312	
	Mean	55.54	.672	
	95% Confidence Interval for Mean	Lower Bound	54.22	
		Upper Bound	56.87	
	5% Trimmed Mean	55.36		
	Median	55.00		
	Variance	108.707		
	Std. Deviation	10.426		
Psychological Well-being (PWB)	Minimum	30		
	Maximum	88		
	Range	58		
	Interquartile Range	14		
	Skewness	.297	.157	
	Kurtosis	.188	.312	
	Mean	88.82	.947	
	95% Confidence Interval for Mean	Lower Bound	86.96	
		Upper Bound	90.69	
	5% Trimmed Mean	89.10		
Median	90.00			
Variance	216.264			
Std. Deviation	14.706			
Minimum	47			
Maximum	120			
Range	73			
Wellbeing (ONS)	Interquartile Range	22		
	Skewness	-.264	.157	
	Kurtosis	-.379	.312	
	Mean	26.2365	.49711	
	95% Confidence Interval for Mean	Lower Bound	25.2573	
		Upper Bound	27.2158	
	5% Trimmed Mean	26.5217		
	Median	27.0000		
	Variance	59.556		
	Std. Deviation	7.71727		
Minimum	4.00			
Maximum	41.00			
Range	37.00			
	Interquartile Range	9.50		
	Skewness	-.633	.157	
	Kurtosis	.127	.312	

Appendix Table R.2 Extreme Values for Study 4

		Case Number	Response Id	Value	
Thriving at Work (TAW)	Highest	1	239	R_57P4Myn7gn71Prz	7.00
		2	240	R_2VgYrDuew8NWhO7	7.00
		3	241	R_1DzEDwpHEd7USI8	7.00
		4	238	R_41007ZklE2viaE9	6.91
		5	237	R_0kwr68KnHiJU4P7	6.82
	Lowest	1	1	R_1eF53ZkihwhdWYK	1.27
		2	3	R_DRYCvmMI9FHDgtz	1.55
		3	2	R_yCG8JgJtVHYGBBD	1.55
		4	5	R_3HA2pm9opwnzE03	1.64
		5	4	R_8eug0y98cUqDdst	1.64
Resilience at Work (PsyCapR)	Highest	1	22	R_1esEMb5zQoU5H0H	36
		2	177	R_1rODomT81rMI7Gm	36
		3	221	R_qPlcPM2biVzVTm9	36
		4	240	R_2VgYrDuew8NWhO7	36
		5	241	R_1DzEDwpHEd7USI8	36
	Lowest	1	155	R_1FzxQJf03qSRcl3	13
		2	16	R_9LtdvGpXpaxA9b	15
		3	129	R_AhTywPm1GwOPiUx	16
		4	39	R_1dv1f5w6KBegrzd	16
		5	25	R_1E6ZAuIAsx3vaFd	17
Prioritising Relationships (CS)	Highest	1	232	R_330ZayObHLUFxmu	4.89
		2	235	R_1fjyKZUazsMDkF6	4.78
		3	129	R_AhTywPm1GwOPiUx	4.56
		4	207	R_1mC2S3ZWlNQUcaw	4.56
		5	119	R_YYWusGKZJ5YomRP	4.44
	Lowest	1	90	R_1LYvLyMMSdlQ8q6	1.00
		2	136	R_3qHVtkzOBW4WKO8	1.11
		3	1	R_1eF53ZkihwhdWYK	1.22
		4	28	R_3MAAsdbKxmvevCwl	1.33
		5	2	R_yCG8JgJtVHYGBBD	1.44
Authenticity at Work (IAMW)	Highest	1	28	R_3MAAsdbKxmvevCwl	82
		2	80	R_oY6QRvZfyuYtVap	78
		3	92	R_vrGqRDDbarXZjMJ	77
		4	112	R_1LeDXwKK3uPHN62	77
		5	233	R_24hNb3aXnTa6jqC	77
	Lowest	1	25	R_1E6ZAuIAsx3vaFd	20
		2	13	R_3rIq7PdLLfmzdB	20
		3	6	R_3Hj3m2dhhYjyTyC	25
		4	3	R_DRYCvmMI9FHDgtz	27
		5	46	R_3DvgRA0KSIoRyRT	28
Sense of Coherence (SoC)	Highest	1	137	R_1kH8gQxkPuHNctf	88
		2	148	R_DItVNOrGgGuKSXL	83
		3	226	R_1ikhZNLVN4ZT9We	81
		4	236	R_XNYQOwBG9K2kyoF	81
		5	232	R_330ZayObHLUFxmu	80
	Lowest	1	96	R_1C4uBCZ6rzAWwiA	30
		2	136	R_3qHVtkzOBW4WKO8	31
		3	67	R_2VpQOWA6OK78Dil	31
		4	56	R_1Q4mMmJ0ghBMcEe	32
		5	11	R_1duJTAORsZbBID4	34
Psychological Well-being (PWB)	Highest	1	236	R_XNYQOwBG9K2kyoF	120
		2	226	R_1ikhZNLVN4ZT9We	118
		3	127	R_1jB6vllhl1pw6Xt	116

		Case Number	Response Id	Value	
		4	148	R_DItVN0rGgGuKSSL	116
		5	213	R_3CZ4k589AN1KX8t	116
	Lowest	1	235	R_1fjyKZUazsMDkF6	47
		2	6	R_3Hj3m2dhhYjyTyC	50
		3	5	R_3HA2pm9opwnzE03	53
		4	2	R_yCG8JgJtVHYGBBD	54
		5	25	R_1E6ZAuIAsx3vaFd	57
Wellbeing (ONS)	Highest	1	231	R_3IREtpmk1g3YrLf	41.00
		2	232	R_330ZayObHLUFxmu	41.00
		3	238	R_41007Zk1E2viaE9	41.00
		4	240	R_2VgYrDuew8NWhO7	41.00
		5	235	R_1fjyKZUazsMDkF6	40.00
	Lowest	1	49	R_2qfx8N12OrhjZkp	4.00
		2	25	R_1E6ZAuIAsx3vaFd	4.00
		3	11	R_1duJTAORsZbBID4	4.00
		4	2	R_yCG8JgJtVHYGBBD	4.00
		5	10	R_3iVw5LQobLY90Tu	7.00 ^a

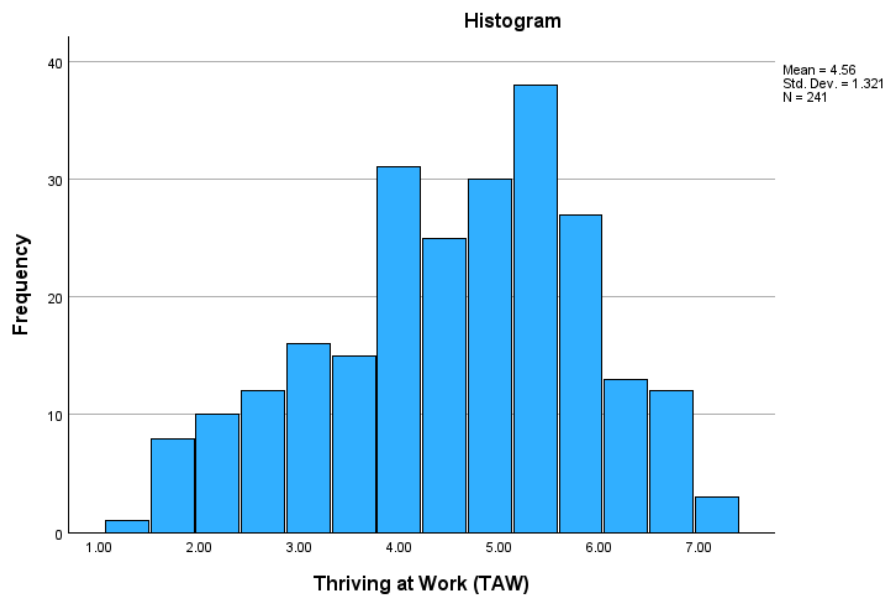
a. Only a partial list of cases with the value 7.00 are shown in the table of lower extremes.

Appendix Table R.3 Tests of Normality for Study 4

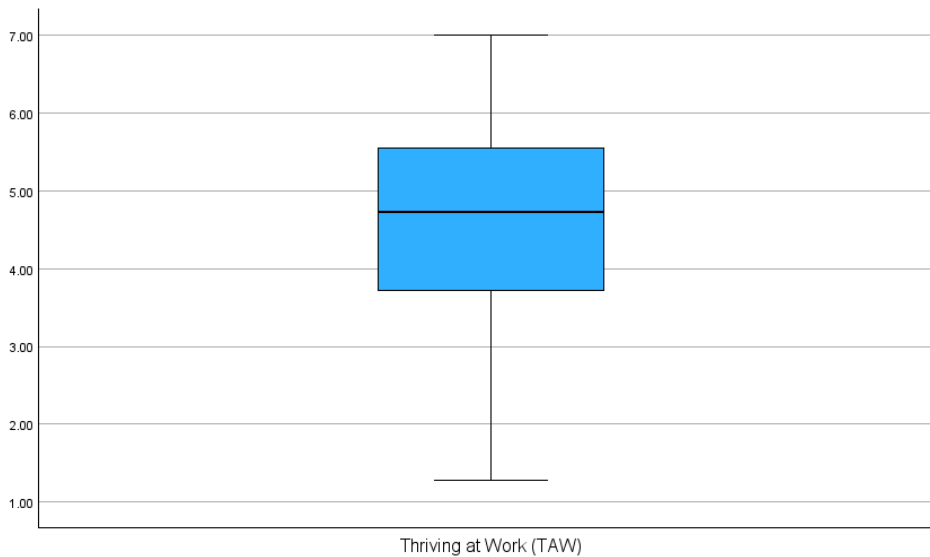
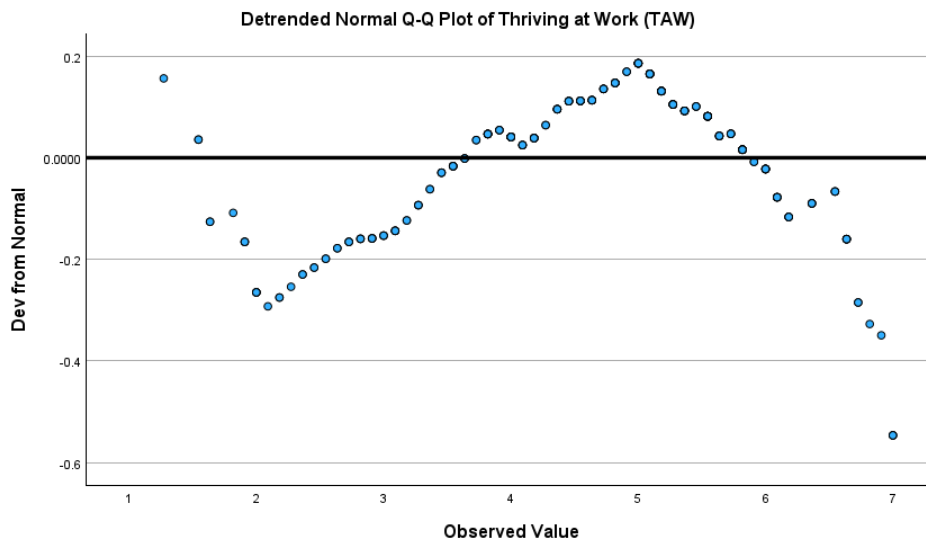
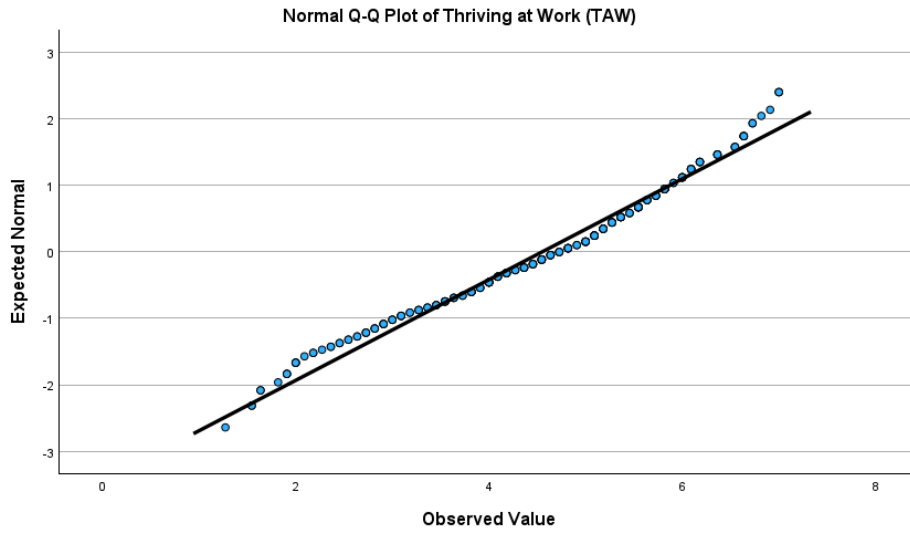
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Thriving at Work (TAW)	.088	241	<.001	.974	241	<.001
Resilience at Work (PsyCapR)	.089	241	<.001	.982	241	.003
Prioritising Relationships (CS)	.059	241	.039	.988	241	.049
Authenticity at Work (IAMW)	.104	241	<.001	.976	241	<.001
Sense of Coherence (SoC)	.076	241	.002	.990	241	.089
Psychological Well-being (PWB)	.056	241	.066	.989	241	.071
Wellbeing (ONS)	.109	241	<.001	.965	241	<.001

a. Lilliefors Significance Correction

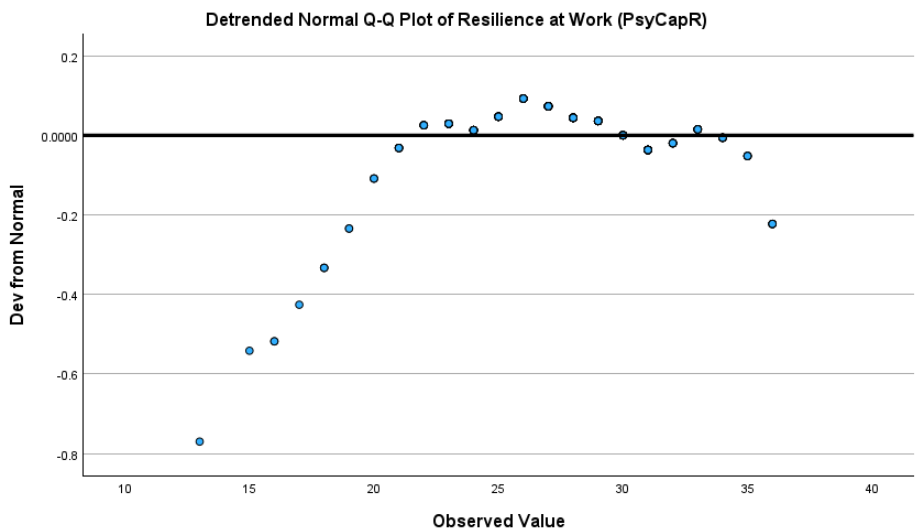
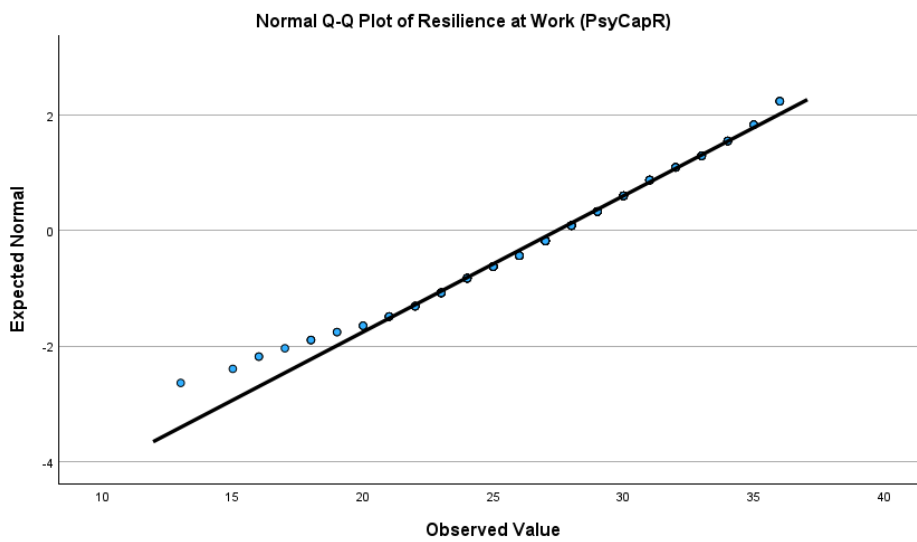
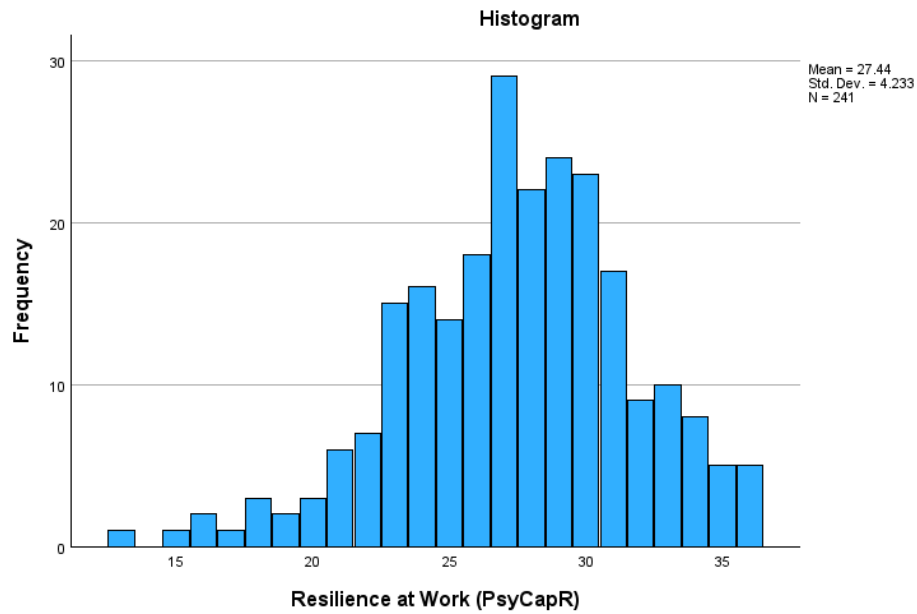
R.1 Normality Graphs for Thriving at Work (TAW) for Study 4

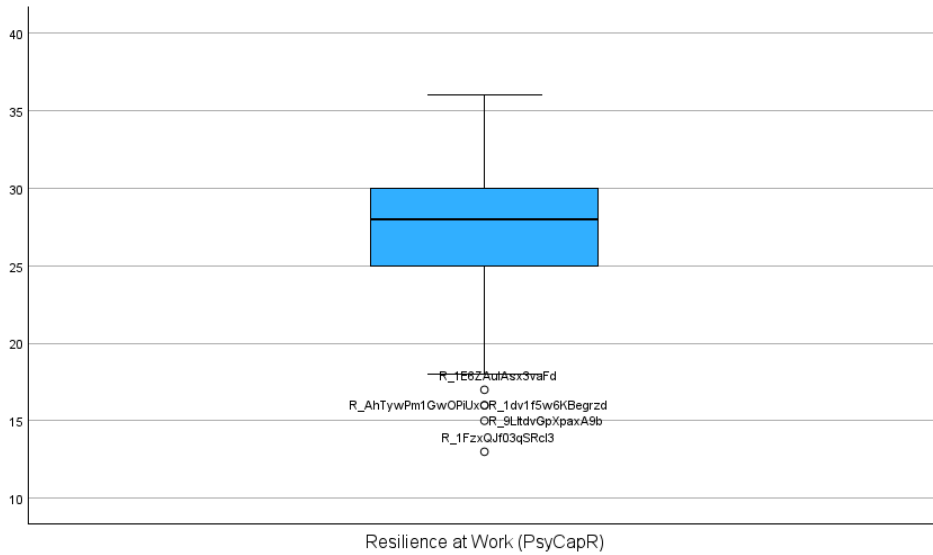


An Investigation Into the Relationship Between Resilience and Thriving at Work

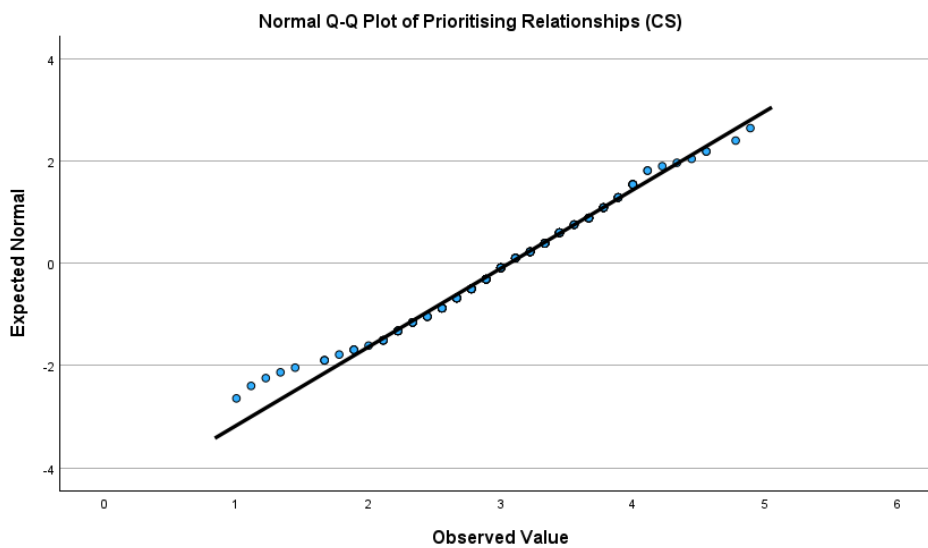
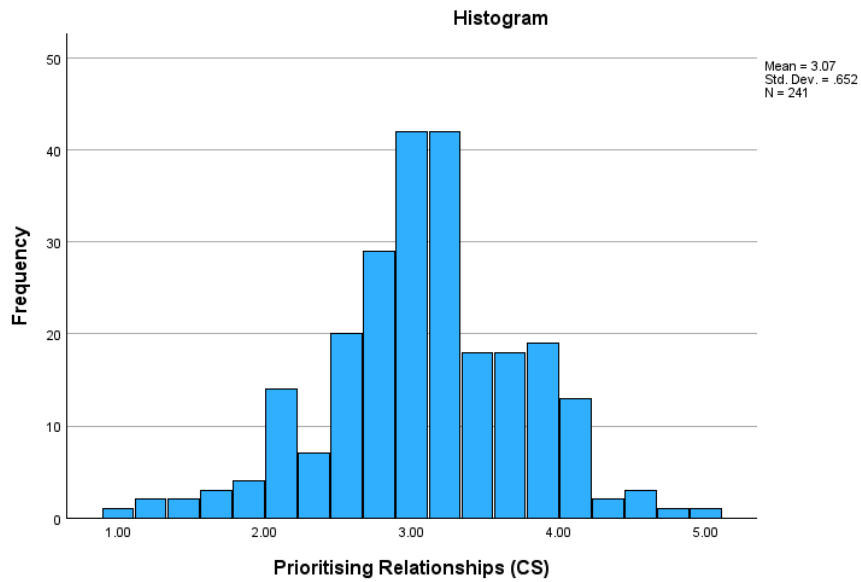


R.2 Normality Graphs for Resilience at Work (PsyCapR) for Study 2b

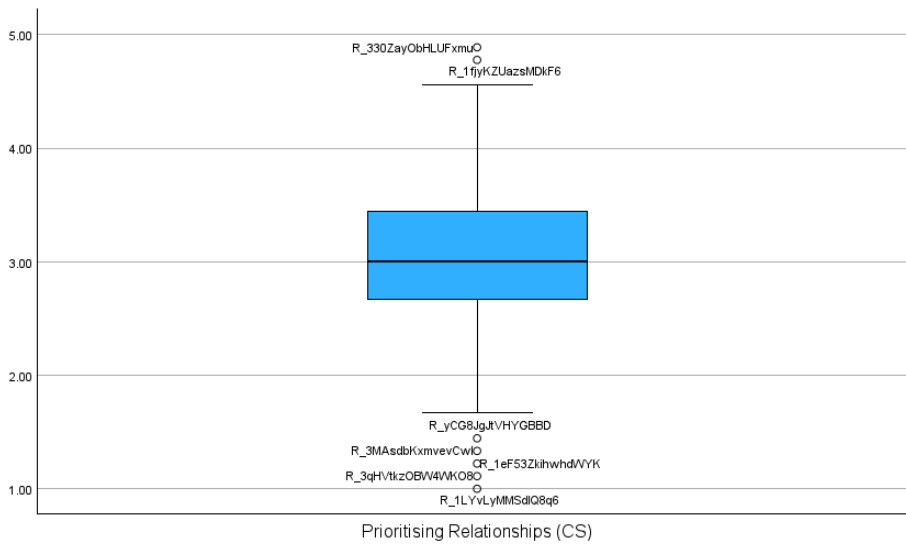
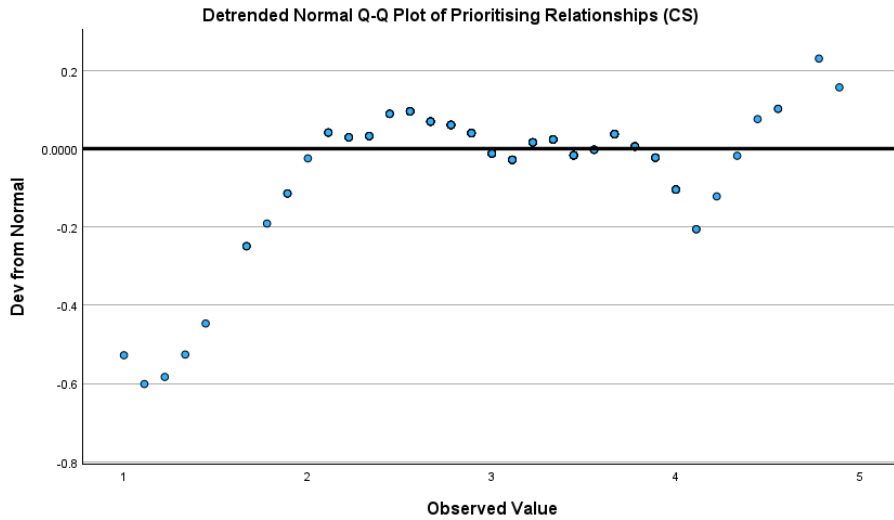




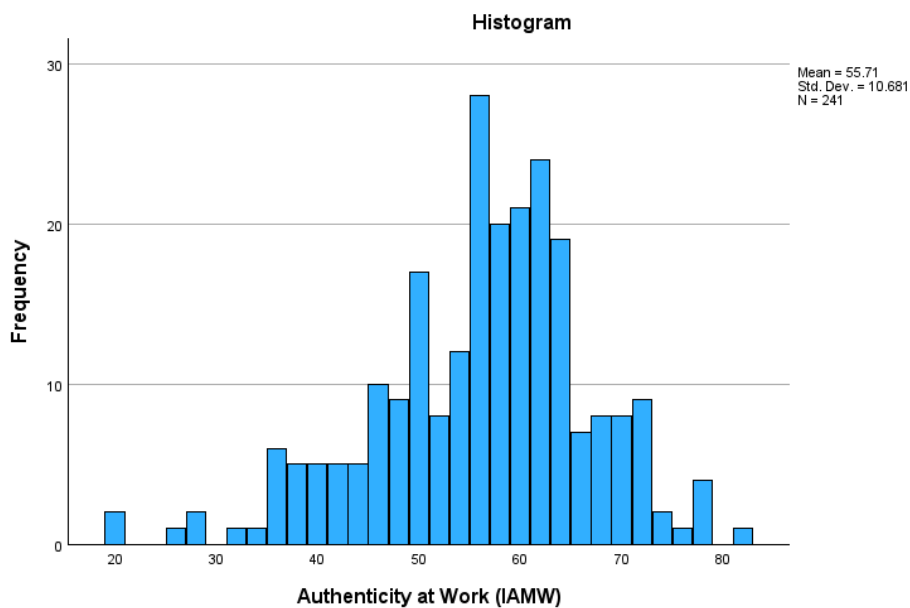
R.3 Normality Graphs for Prioritising Relationships (CS) for Study 2b



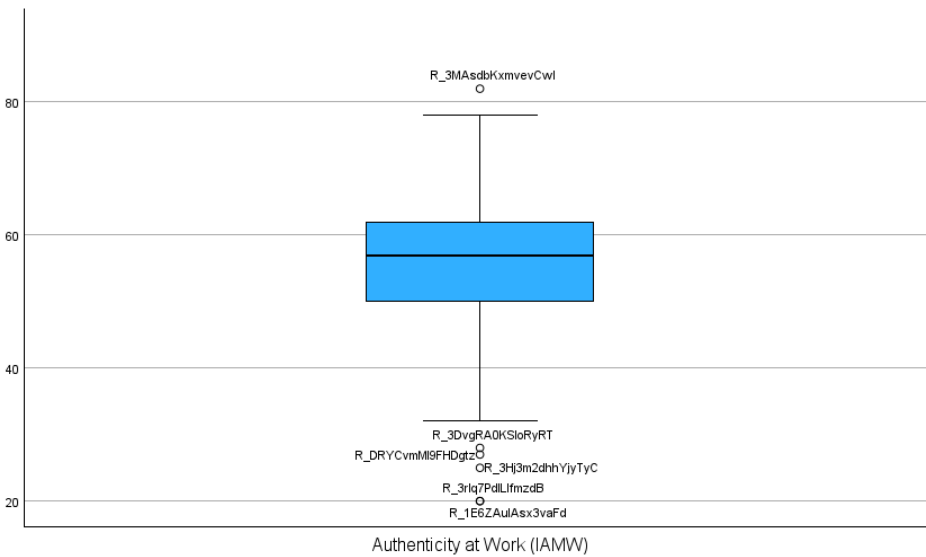
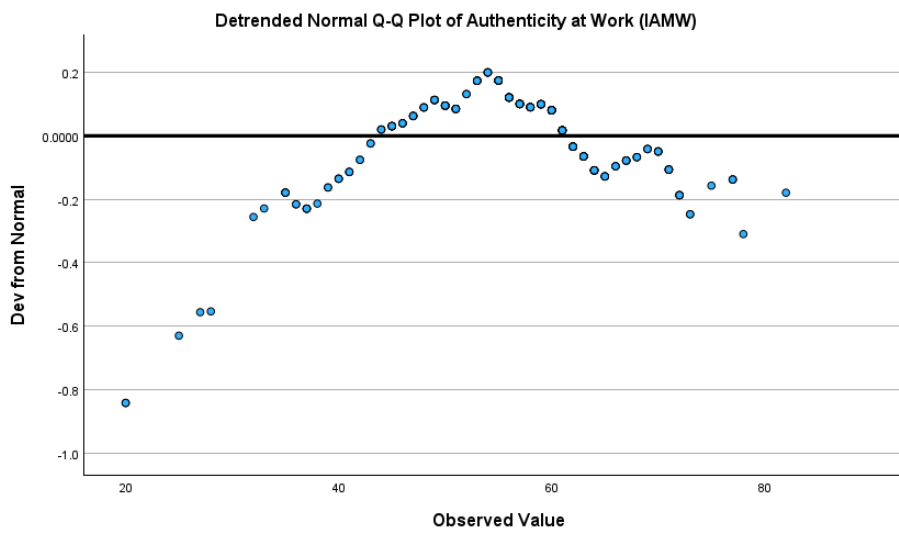
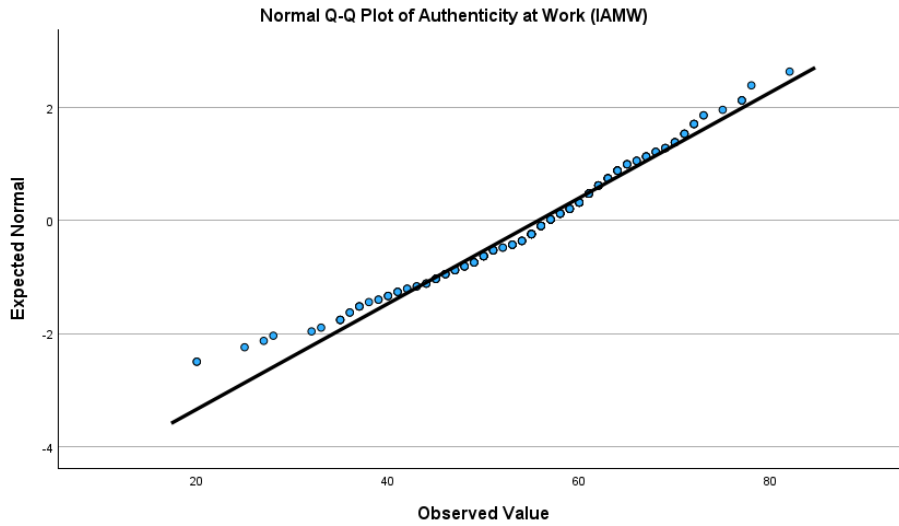
An Investigation Into the Relationship Between Resilience and Thriving at Work



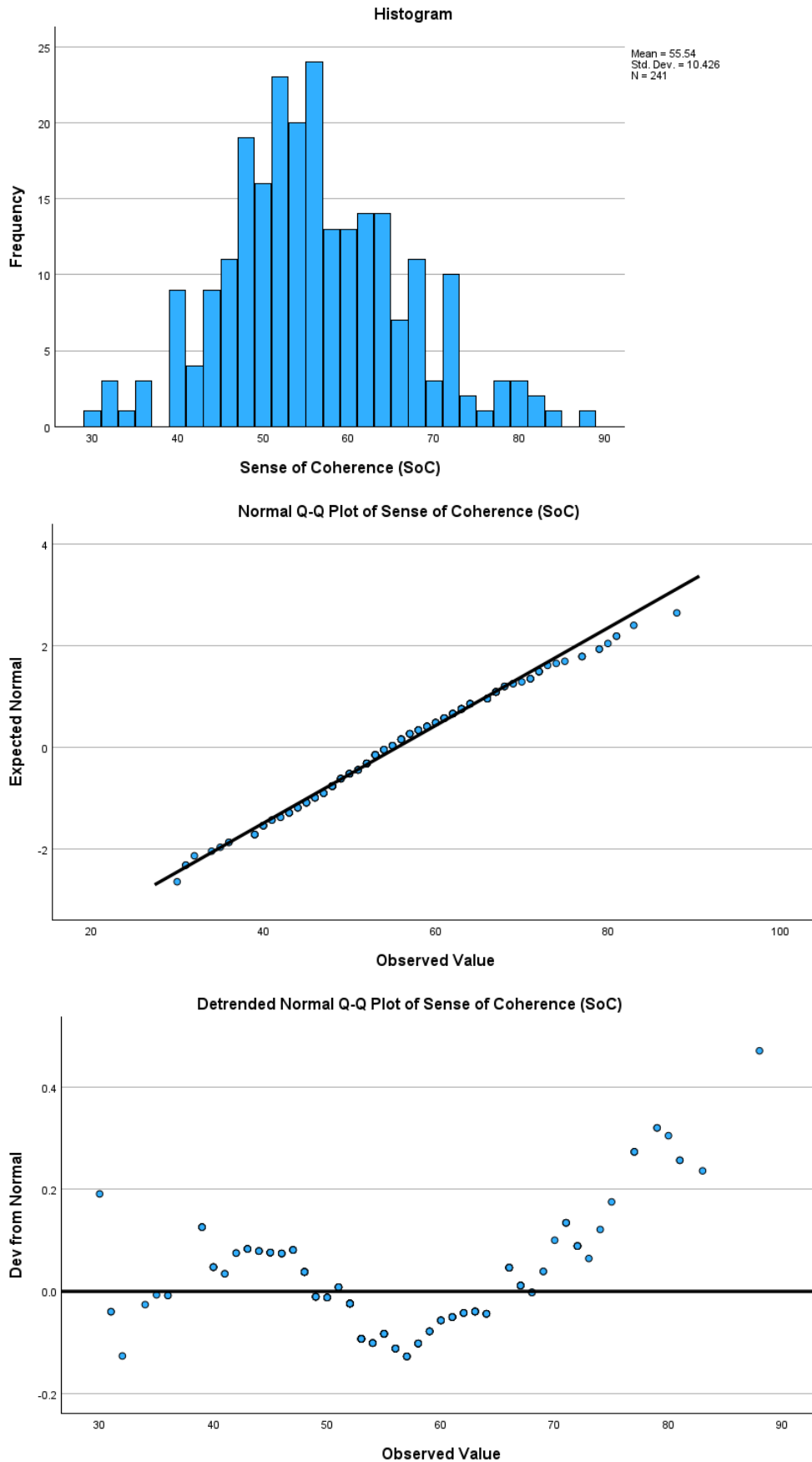
R.4 Normality Graphs for Authenticity at Work (IAMW) for Study 2b

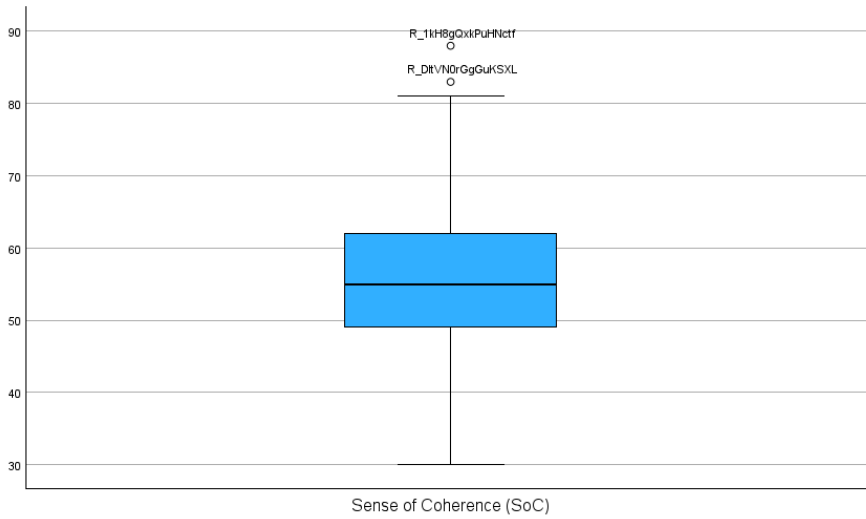


An Investigation Into the Relationship Between Resilience and Thriving at Work

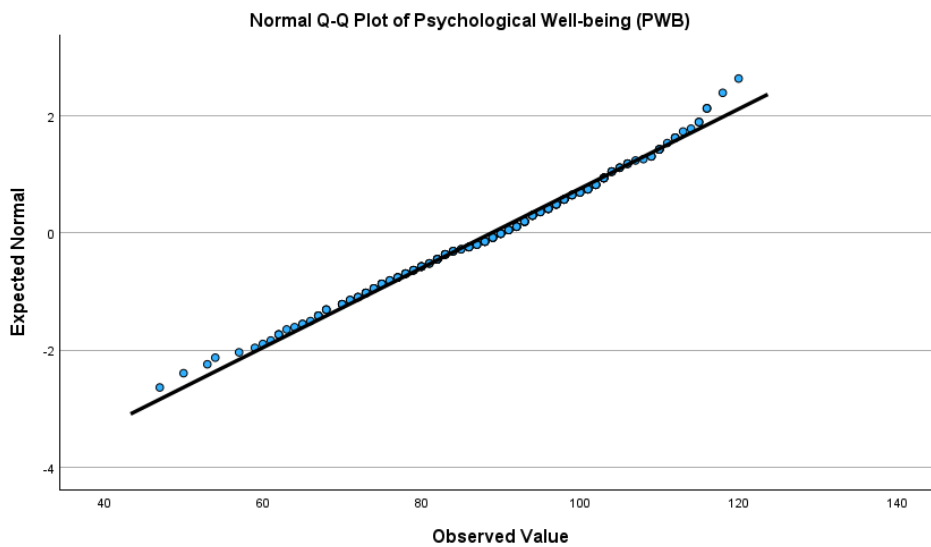
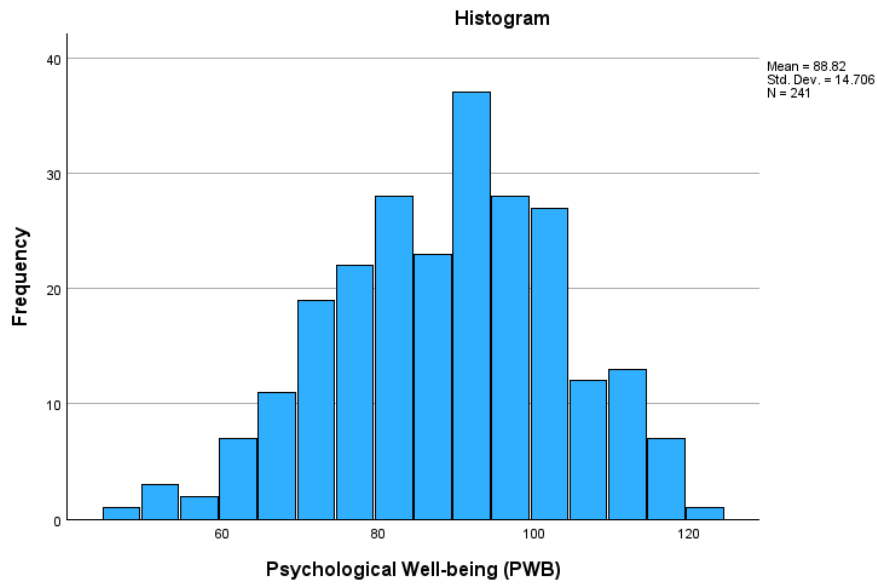


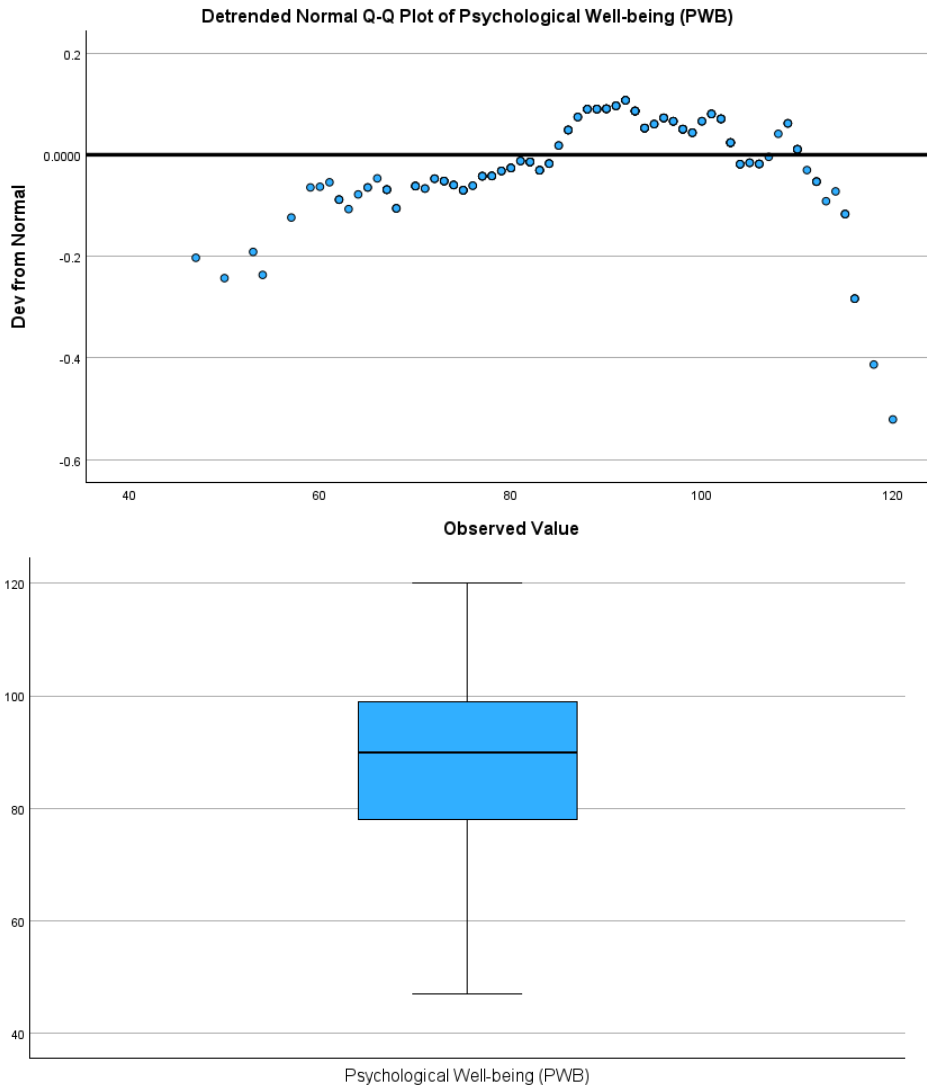
R.5 Normality Graphs for Sense of Coherence (SoC) for Study 2b



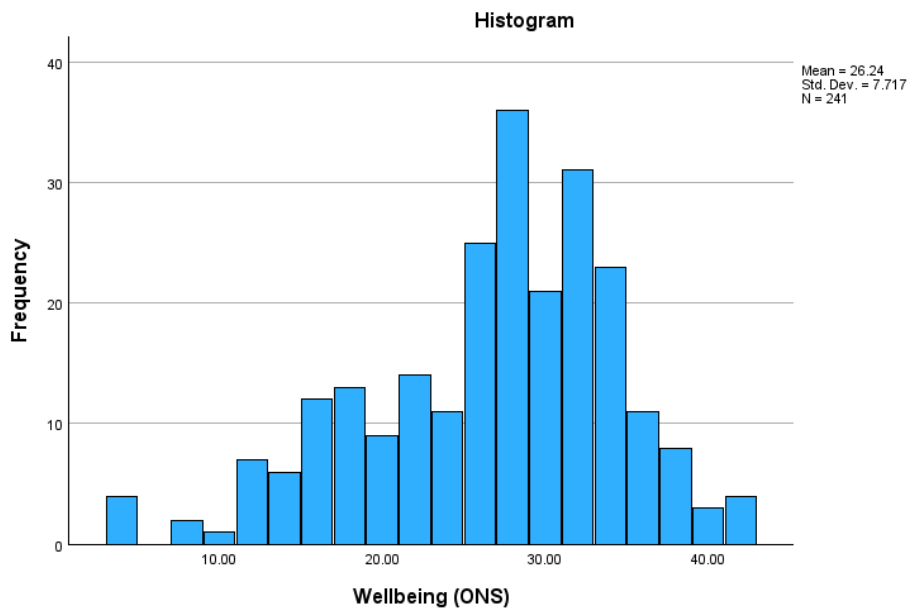


R.6 Normality Graphs for Psychological Wellbeing (PWB) for Study 2b

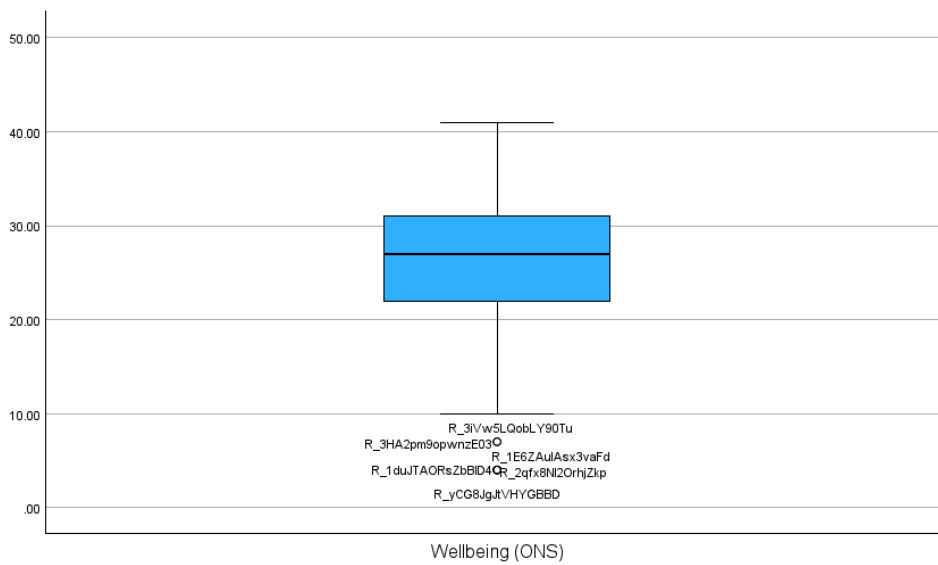
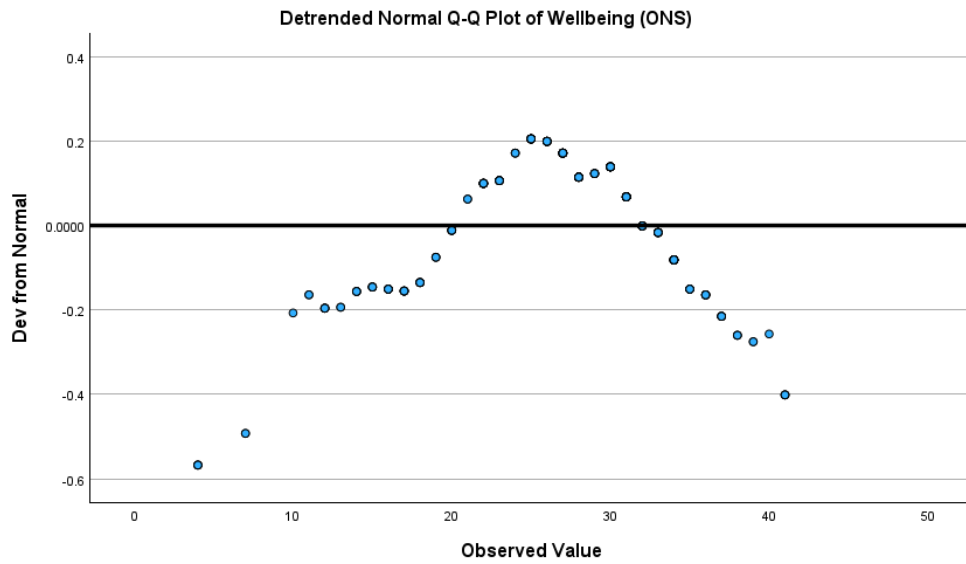
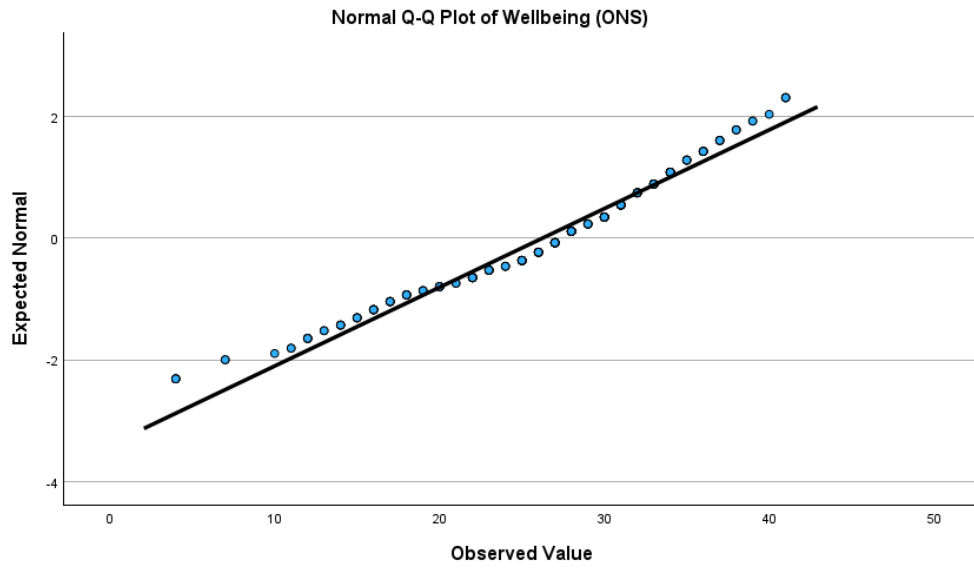




R.7 Normality Graphs for Wellbeing (ONS) for Study 2b



An Investigation Into the Relationship Between Resilience and Thriving at Work



Appendix S

Coaching Session Outline Structure for Study 5

The coaching session was semi-structured. Follow-up questions and discussion took place according to the participant's reactions.

Study information and consent plus participant objectives for the session (5 minutes)

- Review study information and consent form with participant and confirm consent.
- What are you hoping to have achieved by the end of this coaching session?
- What will tell you that this coaching session was worth your time?

Initial PRP report review (10 minutes)

- What came up for you as you were reading your PRP report?
- What strengths do you see in your PRP report? How do they show up in your work? How might your work change if you used these strengths even more?
- What areas of development do you see in your PRP report? How might your work be different if you strengthened those areas?
- What actions have you taken/considered taking having read your PRP report?

Prioritising relationships and being authentic at work (5 minutes)

Explain that my research has highlighted two things that may positively impact thriving at work: prioritising relationships and being more authentic at work. Discuss what that might look like.

Taking action to prioritise relationships at work (10 minutes)

- If you were prioritising relationships at work, what would that look like for you?
- Tell me about times when you have prioritised relationships at work in the past.
- What would help you to prioritise relationships at work right now?
- What deliberate action(s) might you take today?
- What might prevent you from taking those actions?
- How might you overcome the issue(s) identified above?

Discussion about taking action to be more authentic at work (10 minutes)

- If you were being authentic at work, what would that look like for you?
- Tell me about times when you have been authentic at work in the past.
- What would help you to be more authentic at work right now?
- What specific action(s) might you take today/this week to be more authentic at work?
- What might prevent you from taking those actions?
- How might you overcome the issue(s) identified above?

Summary and Conclusion (5 minutes)

- Summary of the coaching discussion.
- Participant summarises actions they plan to take as a result of this coaching session.
- Review of initial goals for the session – have they been met?
- Formal statement that coaching part of the session has now concluded.

Feedback/Interview part of the session (30 minutes)

- Re-iteration of consent to this part of the session being recorded. Turn on audio recording.
- Ask Reaction, Learning and Behaviour semi-structured feedback questions (Appendix T).

Appendix T

Evaluation Questions Asked in Study 5 by Kirkpatrick (1996) Level

T.1 Reaction Level Questions

Question	Scale (for Quantitative)	Group	When Asked
How would you describe your experience of answering the questionnaires?	n/a	Both	
How helpful did you find the PRP report?	1-5 scale (<i>not at all helpful to very helpful</i>) plus open comment	Both	Group 1: Final Survey Group 2: Verbally after Coaching
How much did the questionnaires and PRP report help you reflect about your experience of resilience, wellbeing and thriving?	1-5 scale (<i>not at all to a great deal</i>) plus open response box	Both	
How would you describe your experience of having coaching to help you build thriving at work?	n/a	Group 2	Verbally after Coaching
How much did the coaching help you reflect about your experience of resilience, wellbeing and thriving?	1-5 scale (<i>not at all to a great deal</i>) plus optional comment		
How likely would you be to recommend completing the PRP for development to someone else?	1-5 scale (<i>Definitely – Probably – Maybe – Probably Not – Definitely Not</i>) plus open comment	Both	Group 1: Final Survey Group 2: Verbally after Coaching
How likely would you be to recommend 1:1 coaching for development to someone else?	1-5 scale (<i>Definitely – Probably – Maybe – Probably Not – Definitely Not</i>) plus open comment	Group 2	Verbally after Coaching

T.2 Learning Level Questions

Question	Scale (for Quantitative)	Group	When Asked
How would you summarise what you have learned about thriving at work as a result of your participation in the study?	n/a	Both	Group 1: Final Survey Group 2: Verbally after Coaching and Final Survey
What have you learned about prioritising relationships at work?	n/a	Group 2	Verbally after Coaching and Final Survey
What have you learned about being more authentic at work, that is to be more yourself at work?	n/a	Group 2	
What did you find most interesting and/or useful about your participation in the study?	n/a	Both	Group 1: Final Survey Group 2: Verbally after Coaching and Final Survey
What did you find most helpful about the coaching session?	n/a	Group 2	Verbally after Coaching and Final Survey
How far do you agree with the following statement “I have developed more self-awareness as a result of participating in the study”	1-5 scale (<i>Strongly Disagree – Strongly Agree</i>) plus open comment	Both	Group 1: Final Survey Group 2: Verbally after Coaching and Final Survey

T.3 Behaviour Level Questions

Question	Scale (for Quantitative)	Group	When Asked
What actions do you plan to take/have you taken as a result of your participation in the study?	n/a	Both	Group 1: Final Survey Group 2: Verbally after Coaching and Final Survey
How likely are you to take action as a result of your participation in the study?	1-5 scale (<i>not at all likely to very likely or already have</i>) plus open comment	Both	
What might prevent you taking action and how might you overcome this?	n/a	Both	
How far do you agree with the following statement "I am clear about what actions will help me increase my thriving at work"	1-5 scale (<i>Strongly Disagree – Strongly Agree</i>) plus open comment	Both	

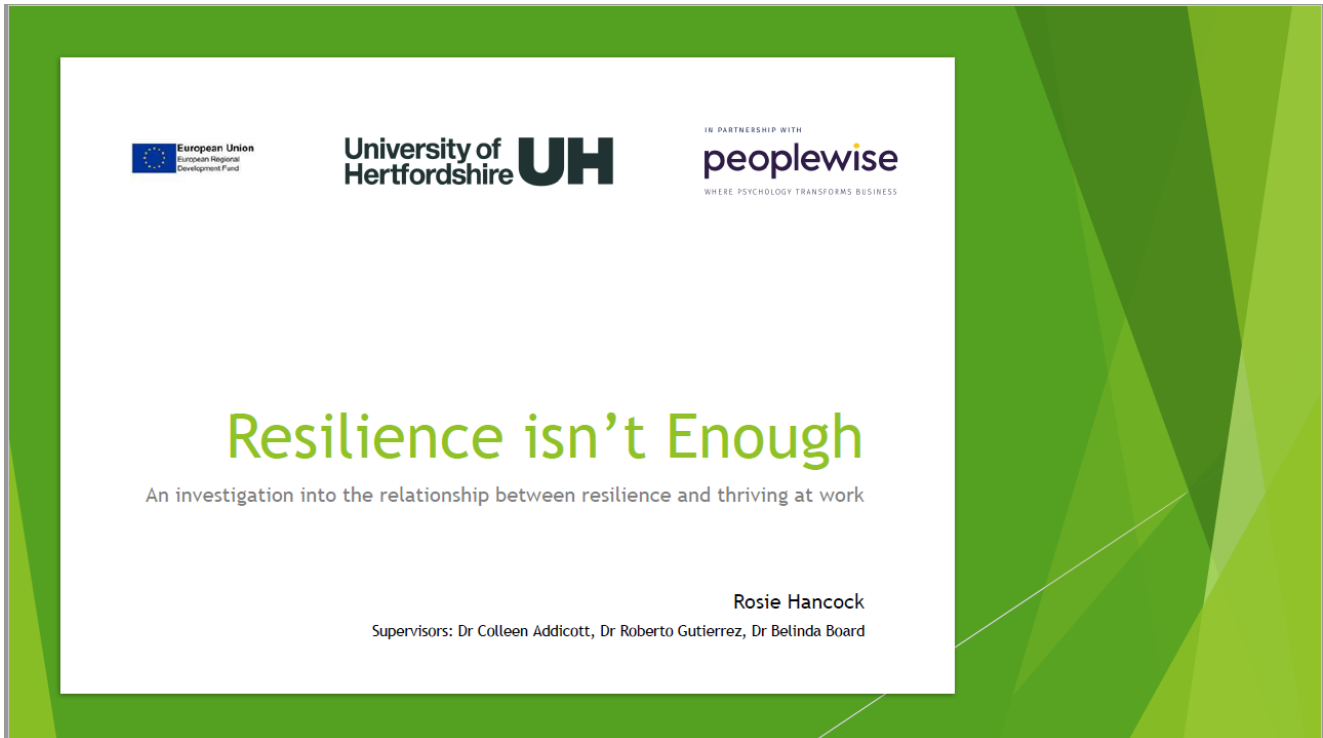
T.4 Results Level Questions

Question	Scale (for Quantitative)	Group	When Asked
What have you noticed about your relationships at work since your study participation?	n/a	Group 2	Final Survey
What have you noticed about your ability to be more authentic at work since your study participation?	n/a	Group 2	
What changes have you noticed in your thriving at work since your study participation?	n/a	Both	
What changes have others noticed about you at work since your study participation?	n/a	Both	

Appendix U

Slides and Poster Presented at IPPA World Congress, July 2023

U.1 Slides Used Presenting at IPPA World Congress, July 2023



The title slide features a white background with a green geometric pattern on the right side. At the top left is the European Union logo with the text 'European Union European Regional Development Fund'. To its right is the University of Hertfordshire logo 'UH'. Further right is the 'peoplewise' logo with the tagline 'WHERE PSYCHOLOGY TRANSFORMS BUSINESS'. The main title 'Resilience isn't Enough' is in a large green font, with the subtitle 'An investigation into the relationship between resilience and thriving at work' below it. At the bottom right, the author's name 'Rosie Hancock' and supervisors 'Supervisors: Dr Colleen Addicott, Dr Roberto Gutierrez, Dr Belinda Board' are listed.

European Union
European Regional
Development Fund

University of
Hertfordshire **UH**

IN PARTNERSHIP WITH
peoplewise
WHERE PSYCHOLOGY TRANSFORMS BUSINESS

Resilience isn't Enough

An investigation into the relationship between resilience and thriving at work

Rosie Hancock
Supervisors: Dr Colleen Addicott, Dr Roberto Gutierrez, Dr Belinda Board



The content slide has a white background with a green geometric pattern on the right. On the left, there are three images: purple crocuses, a modern office interior with people working, and a small green sprout growing from a crack in asphalt. The main text is in green and black. The aim is to investigate the relationship between resilience and thriving at work for desk-based workers. Three bullet points discuss the need for research, the focus on high-risk/high-stress occupations, and the need for evidence-based strategies. Logos for the University of Hertfordshire and peoplewise are at the bottom.

Aim: Investigate how resilience and thriving at work are related for desk-based workers

- ▶ **Resilience** helps us to survive at work, but how do we do better – how do we **thrive** at work?
- ▶ People **assume** that **resilience** and **thriving** are related, but no-one has researched the relationship.
- ▶ Existing research into resilience at work mostly focuses on **high-risk/high-stress occupations** e.g., military, police, first responders, doctors and nurses, social workers etc.
- ▶ **Evidence-based strategies** are needed to help people thrive at work, to maximise the benefits for both individuals and organisations.

University of Hertfordshire **UH**

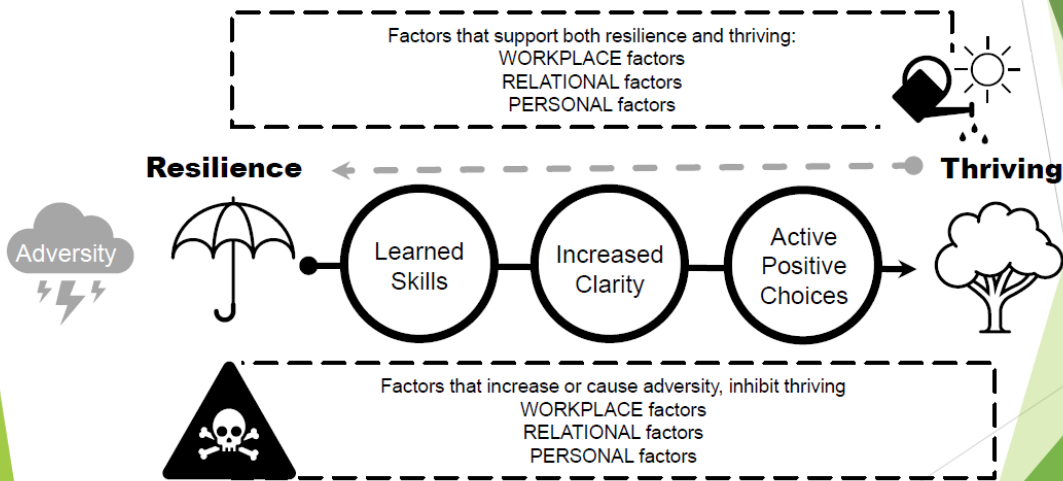
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Program of Studies

Question	Study Type	Results
What do we already know about resilience and thriving at work?	Literature review, Compare meta-analyses and structured reviews	Extensive research into resilience and resilience at work but confusion around definitions, measurement. Resilience and thriving at work overlap but are not the same. No research on how resilience and thriving at work are related. Multiple common antecedents and outcomes.
How far are resilience and thriving at work the same?	Survey N=310	Resilience and Thriving at Work are related but distinct Pearson correlation $r=.361$, $p>.01$
How important are resilience and thriving at work for known common outcomes - for individuals and organisations?	Survey N=288	Moderate to strong correlations for each with all outcomes. Thriving at work has stronger correlation with outcomes. Hold thriving at work constant removes correlation of resilience with work-related outcomes.
How are resilience and thriving at work experienced for individuals in desk-based occupations?	Interviews/ Thematic Analysis (Braun & Clarke, 2006) N=16	Themes: 1. Resilience develops roots that enable thriving 2. Thriving is bigger than the individual 3. Thriving spirals upwards through active choices in a supportive environment Framework illustrating relationship (see next slide)
What factors mediate the relationship between resilience and thriving at work?	Survey N=300+	In progress

Resilience and Thriving at Work Relationship Framework



Thanks for your attention!

Reference

- ▶ Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

U.2 Poster Presented at IPPA World Congress, July 2023

Resilience Isn't Enough:

Investigating the relationship between resilience and thriving at work for desk-based workers

Rosie Hancock, University of Hertfordshire
Supervisors: Dr Colleen Addicott, Dr Roberto Gutierrez, Dr Belinda Board

Background

Thriving at work ("the psychological state in which individuals experience both a sense of vitality and a sense of learning at work," Spreitzer et al., 2005, p. 538) is a desirable outcome – we want people to be at their best at work, both for themselves and for their organisations.

People assume that **resilience** ("the process by which individuals are able to positively adapt to substantial difficulties, adversity, or hardship," Fisher et al., 2019 p. 592) and **thriving** are related, but no-one has researched the relationship.

Resilience and thriving at work overlap and have multiple common antecedents and outcomes.

Existing research into resilience at work mostly focuses on high-risk/high-stress occupations e.g., military, police, first responders, doctors and nurses, social workers etc.

The Covid-19 pandemic brought resilience and thriving at work into general discussion for everyone, so evidence-based information is needed for both organisations and individuals to maximise the likelihood of people thriving at work, which benefits both individuals and organisations.

Programme of Studies

Convergent Sequential Analysis:

- Literature review** including comparing meta-analyses and structured reviews to identify common antecedents and outcomes for resilience and thriving at work
- How far are resilience and thriving at work the same?** Survey and Quantitative Analysis: N=310
Result: Pearson correlation $r = .361, p > .01$
- How important are resilience and thriving at work for known common outcomes for individuals and organisations?** Survey and Quantitative Analysis: N=288.
Results: Moderate to strong correlations with all outcomes. Hold thriving at work constant removes correlation between resilience and work-related outcomes
- How are resilience and thriving at work experienced for individuals in desk-based occupations?** Critical Incident Technique Interviews and Thematic Analysis: N=18
Results: See rest of poster
- What factors mediate the relationship between resilience and thriving at work?** Survey and Mediation Analysis: N=300+ (in progress)

Surveys were implemented using Qualtrics and Prolific (prolific.co).

Population:

- Working adults – most UK based, some US, NZ, Aus, UAE
- Not in roles with inherent or second-hand trauma
- Not in customer facing roles
- Employed in organisations of 10+ people
- Variety of ages, genders, ethnicities

This Study

Method:
16 people asked: "Please describe a significant situation when you were particularly resilient/thriving at work"; "... when you struggled to be resilient/thrive at work" followed by Thematic Analysis (Braun & Clarke, 2006)

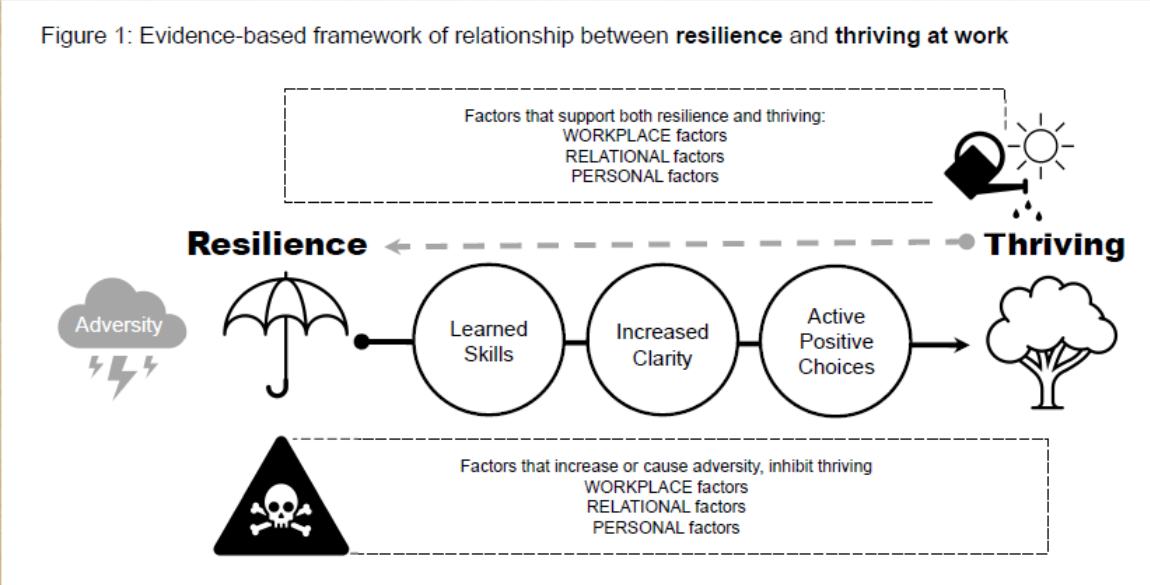
Qualitative themes developed:

- Resilience develops roots that enable thriving
- Thriving is bigger than the individual
- Thriving spirals upwards through active choices in a supportive environment

Participant quote:
"plants can be resilient, but they may not be thriving. [...] I guess the thriving thing for me is something about actually those plants, not just, not just existing but actually having the flowers and the, and the bloomy bits, the blossomy bits"

Conclusion
Resilience, developed by reacting to adversity, results in learned skills and increased personal clarity. These form a basis that can enable an individual to make active choices to thrive at work, when they feel part of a community within a positive organizational context and culture at work.

See framework below:



References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Fisher, D. M., Rappaport, J. M., & Fisher, E. C. S. (2019). The Importance of Definitional and Temporal Issues in the Study of Resilience. *Applied Psychology*, 68(4), 583–600.

Spreitzer, G. M., Sutcliffe, K., Dutton, J., Sonenshein, S., & Grant, A. M. (2005). A Socially Embedded Model of Thriving at Work. *Organization Science*, 16(5), 537–546.

Acknowledgments

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Thanks to Ruby Degun for conducting some interviews.

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Further information

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if you have a question or comment.