Defining a Research Model of Leader Resilience and Evaluating the Dispositional Effect of Resilience on Transformational Leadership

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This is the final and approved form of the dissertation.

“Defining a Research Model of Leader Resilience and Evaluating the Dispositional Effect of Resilience on Transformational Leadership”

Presented By: Mrs Lynda N. Folan

Presented To: Dissertation Research Committee
Statement of Originality

I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material that have been accepted for the award of any other degree or diploma at this or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by others with whom I have worked at this university or elsewhere is explicitly acknowledged in the thesis. I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project’s design and conception in style, presentation and linguistic expression is acknowledged.

Signed:

Date: 22nd October 2019
Abstract

During the last ten years, research linking the constructs of resilience and leadership style has begun to emerge, with a small number of research papers investigating a combination of these factors (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). This thesis extends the current research in the field by proposing and validating a model of leader resilience that has been developed to align with leadership in an organisational context. The thesis also explores and defines the relationship between resilience and transformational leadership, providing essential insights into the impact of resilience training on leadership capability.

A multidisciplinary review of the extant research on the constructs of leadership style and resilience was conducted. The relationship between these research areas was explored and hypothesised links in previous research from a range of disciplines were investigated. Based on this multidisciplinary review, a model of leader resilience was developed, and three dimensions of resilience were proposed. The dimensions identified aligned with an organisational and leadership context and included self-concept well-being, locus of control and constructive thinking. Each of these dimensions has been independently shown to enhance a leader’s ability to bounce back and remain optimistic, as well as ensuring that the individual can consistently deliver a transformational leadership style.

This organisational model of leader resilience informed the design of two field-based studies devised to add to the research linking these constructs. Study 1 was designed to investigate the relationships between resilience and the transformational leadership style and to validate the proposed model of leader resilience. These relationships were examined using a field-based non-experimental design with a sample of 110 leaders. The participants were leaders from a range of private and public-sector organisations across Western Australia. The results of Study 1 showed statistical support for the three-factor model of leader resilience proposed in previous studies. The structural equation modelling (SEM) of the relationships confirmed the proposed model of leader resilience with its
dimensions—self-concept well-being, internal locus of control and constructive thinking. SEM also validated the proposed relationships between leader resilience and leadership style, confirming that leader resilience significantly predicted a transformational style and did not significantly predict a transactional style of leadership.

Study 2 examined two key aspects: First, whether leader resilience could be enhanced using a developmental intervention designed to build the three dimensions of resilience; and second, whether improving leader resilience could have a positive impact on an individual’s leadership style. The studies reported in Study 2 utilised a before-and-after quasi-experimental design with quantitative data analysis, based on a sample of 27 leaders from two organisations based in Perth. The results showed a significant and positive shift in the self-assessed scores across the three dimensions and the measure of resilience. Statistical analysis also confirmed a significant and positive shift in participants’ levels of transformational leadership as measured by self-assessed and boss-assessed scores. The results of both Study 1 and 2 confirmed the hypothesised relationships.
Dedication

I dedicate this dissertation to my friend, colleague and mentor John Mitchell, who taught me extensively about leadership by demonstrating authentic, transformational leadership on a daily basis. John’s passing left a gap for many people who saw him as a mentor and a friend. He was not only an inspirational leader but a very dear friend who stood by my side through some very challenging times. I will be eternally grateful for his friendship, guidance, wisdom and humour throughout the years of our friendship and, in particular, some challenging times in my research journey.
Acknowledgements

This research would not have been possible without the support of family, friends, colleagues and clients. I want to first acknowledge Dr Graeme Ditchburn and Dr Guy Curtis, who have been patient and thoughtful supervisors. They have always been there to offer support and guidance but allowed me the freedom to develop my own thinking and move at a pace that supported my circumstances.

Managing the challenges of running my own business and completing a dissertation has resulted in pressure on family and friends alike. I am eternally grateful to all my friends and family for their assistance and support through the years of my studies, especially the last six months. To my son, Matthew, you are my inspiration and my joy. Your absolute belief in yourself and your resilience in the face of challenge is such a delight to behold. Thank you for the lessons you have taught me and for your unconditional love and devotion. To my Dad, I owe my passion for study to you, not because you ever asked me to be more studious, but because you challenged me to be all that I could be. You have, and will always be, my inspiration.

Finally, to all of my amazing clients who have been so willing to be a part of the research process, thank you for your contribution to the research. I could not have done it without you.

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Chapter 1: Introduction and Overview

Leadership is a widely researched topic in organisational psychology and significant advancements have been made in our understanding of leadership, including the practices of leadership, styles of leadership and leadership development (Day & Sin, 2009). However, there is ongoing global concern over the lack of effective leadership, along with significant questions on the positive impact of leadership development (Howard & Wellins, 2009). It is clear from the research and the ongoing debate on leadership that there are still gaps in our understanding which result in challenges in achieving consistent positive outcomes in organisations (Howard & Wellins, 2009).

In an attempt to respond to the limitation in the research looking at outcomes of leadership development, there has been an increased focus on this critical organisational capability (Gilley, Dixon & Gilley, 2008; Landy & Conte, 2016). Over the last 15 years, leadership research has placed a greater focus on leadership style and the impact thereof on organisational performance and outcomes (Hetland, Sandal & Johnsen, 2008). Bass’s (1985) full-range leadership model precipitated a move away from the continued development of multiple theories of leadership towards a more consolidated focus on assessing the impact of this full-range model. Early leadership research focused on areas such as personal traits, situational factors and functional frameworks to find solutions to the leadership challenge. Bass (1985) moved this discussion towards a more comprehensive style-based framework of leadership and defined a full-range leadership model (Avolio, Bass & Jung, 1999). This full-range leadership model has led to an enhanced understanding of leadership effectiveness and improved outcomes for leadership development (Antonakis, Avolio & Sivasubramaniam, 2003; Bass, 1998; Lowe, Kroeck & Sivasubramaniam, 1996).

While this full-range model has captured the attention of business communities worldwide, there still appears to be a gap in understanding and limited guidance for organisations on how individuals can develop and maintain an effective leadership style in the workplace (Ashford & DeRue, 2010; Day & Sin, 2009). Bass’s (1985) model sparked a resurgence of interest in
investigating the relationship between leadership and dispositional factors that may influence the capacity of leaders to deliver an effective style (Garbowski, 2010; Sylvester, 2009; Wasden, 2014).

Early leadership research commenced with the ‘great man’ theories and focused on identifying personal traits that support great leadership (Landy & Conte, 2016). While there is evidence of the importance of a small number of specific traits (e.g., extroversion) in enhancing leadership capacity, the research in this area has generally shown inconsistent correlations between traits and leadership style (Hollander & Julian, 1969). The lack of a consistent relationship in identification of traits has prompted debate on whether malleable dispositional attributes might provide a different approach to investigating individual differences in a leadership context (Garbowski, 2010; Offutt, 2011; Sylvester, 2009).

The study of dispositional attributes—resilience in particular—is a relatively new field of research in organisational psychology. It has a longer history within clinical psychology, with Garmezy (1974) being credited as one of the first published works in the area. Garmezy examined the factors that define differential responses to pressure and stress. Werner (1982) added to this, investigating the resilience of children in the context of alcoholic and mentally ill parents. Research on resilience has remained mostly within the realm of clinical, social and community psychology over the past three decades. However, this is a growing area of organisational research and there has been a significant increase in research in this area in the last 15 years (Fugate, Kinicki & Prussia, 2008; Hartmann, Weiss, Newman, & Hoegl, 2019; Kerber & Buono, 2009; Kossek, Ellen & Perrigino, Matthew. 2016; Lawrence & Callan, 2011; Tvedt & Saksvik, 2012). The interest in resilience in the is because resilience is seen as a critical determinant in an organisations ability to successfully navigate the dynamic and continually changing business environment (Tonkin, Malinen, Näswall & Kuntz, 2018). Tengblad, S., & Oudhuis, M. (2018) note that resilient organisations are better able to meet the technical, economic and financial challenges that they face. They note that if the organisations and the people are resilient, they will have the capacity to meet challenges and bounce back. As a result, resilience research in organisations is growing, and it is
anticipated that this trend will continue in order to support businesses facing the challenges of the modern business environment. There is also research on related constructs such as hardiness and optimism that is not explicitly focused on resilience however they appear to be very similar constructs (Di Sipio, Falco & De Carlo, 2012; Hand, 2004; Maddi, 2011; Seligman, 1990).

The studies reported in this thesis add to the body of research investigating the relationship between the malleable dispositional attribute of resilience and leadership style. They are also intended to establish the links between these two areas of research within an organisational setting. This thesis comprises 11 chapters, as follows.

Chapter 1 has provided a very brief overview of the context and organisational focus of this thesis. Chapter 2 will elaborate on these, including an overview of the business context and a discussion of the global challenges of managing organisations and delivering effective leadership in the twenty-first century. This chapter will also detail the purpose, aims, unique aspects and significance of this thesis.

Chapter 3 provides a review of leadership research with a comprehensive review of Bass’s (1985) full-range leadership model and the multifactor leadership questionnaire (MLQ), the most widely used instrument for measuring this model.

Chapter 4 reviews the resilience research, commencing with a discussion of the evolution of this construct across a multidisciplinary research base. This chapter also covers the theoretical foundations that informed the definition of the model of leader resilience and supported the identification of the dimensions. The chapter concludes with the proposed model of leader resilience and a conceptual framework that forms the foundation of Study 1 and 2.

Chapter 5 explores the three dimensions of the proposed model of leader resilience. This review includes a discussion of the research origins for each of the dimensions—self-concept well-being, locus of control and constructive thinking—and their use in an organisational setting.

The resilience and leadership research domains are brought together in Chapter 6 in a review of the most recent research linking these in the business context.
Chapter 7 examines the research on leadership development and some of the challenges in this area. It also looks at developmental tools that have been shown to enhance leadership capability.

Chapter 8 presents a clear and measurable research framework for defining statistical analysis of results and the hypotheses that formed the foundation of the research.

Chapter 9 outlines the methodology, diagnostics and instruments utilised by Study 1 and 2. The exploration of the method also gives clarity to the research design, sampling and data analysis for the two independent studies.

Chapter 10 presents the results of Study 1 and 2, including the statistical analyses conducted for each of the hypotheses. Study 1’s results are analysed using SEM, Pearson product-moment correlation coefficients and regression to validate the relationship between leader resilience and its dimensions. Study 2’s results are assessed via t-tests. This evaluation looks at the shift in self-assessed and boss-assessed scores of transformational leadership as a result of an intervention.

Chapter 11 concludes the thesis, discussing the findings and limitations of the two studies and suggestions for future research.
Chapter 2: Research Context

The study of leadership has evolved within the context of a changing world of business and alongside the ever-changing role of a leader in the context of modern organisations (Landy & Conte, 2016). In the last decade, the pace of organisational change has continued to accelerate, making a significant impact on the world of work and organisational requirements (Middleton, Harvey & Esaki, 2015). This increased rate of change has necessitated that businesses operating in an unstable economic arena have had to become increasingly flexible and continuously adapt (Lewis, Goodman & Fandt, 2000).

This chapter sets the environmental context of this thesis and describes why the current economic and organisational context is demanding change in the leadership research space (Sections 2.1–2.3). The aims, unique aspects and purposes of Study 1 and 2 are also presented (Section 2.5).

2.1 Challenges Facing Organisations in the Twenty-first Century

The challenges faced by leaders and the organisations they manage are many and varied. There has been a continued need for businesses to deal with the impact of globalisation (Pisani, 2009). The expansion of the Asian business world and the resulting challenges to the cost of manufacturing in more developed economies have led to much production being outsourced (Yeung, Warner & Rowley, 2008). Consequently, companies that operate in countries with higher labour costs have been forced to refocus their efforts on the knowledge and service sectors and shift away from manufacturing (Yeung et al., 2008). The dramatic demise of organisations such as Enron, World Com and Arthur Andersen Consulting created business shockwaves throughout the investment community and precipitated a focus on organisational ethics and the accountability of senior business leaders (Pelletier & Bligh, 2008). The more recent protracted global financial crisis and the ongoing economic challenges that have been a factor in the Australasian context over the past 15 years have brought about a range of changes, including a shift in the psychological contract with employees, the requirement to realign business practice and find new and creative ways to meet
changing economic requirements (Kler, Leeves & Shankar, 2015). In many businesses globally, the challenges of downsizing and rightsizing have significantly affected the leadership domain (Bradwick, 2008).

The acceleration in the development of technology and the resultant changes in the way people interact and do business have also significantly impacted leaders and their organisations (Forman, King & Lyytinen, 2014). Constantly evolving technology has shifted the way companies operate and the work completed within organisations and continues to be an ongoing challenge in maintaining successful business outcomes (Dabholkar, 2000). The social media explosion has driven a shift in communication channels, methods and sources, and has globalised something that was previously predominantly localised (Nissen & Bergin, 2012). This has necessitated that organisations take these changes into account in their business planning, development and operation. For each business and sector, there is also the ongoing challenge of maintaining an energised and profitable business within an evolving context and an ever-changing competitor base (Tsai & Yang, 2013).

### 2.2 Organisational Evolution and Leadership

Ongoing changes in the business environment have created new and varied challenges and opportunities for organisations and their leaders, and there is a need for an enhanced level of business competence and leadership flexibility to respond to this constant evolution (Lewis et al., 2000). The importance of a leader’s role in steering organisations through change has become a pre-eminent topic of debate (Gilley et al., 2008). The ability to respond to and manage the challenges are, according to the literature, driven and enabled by the leadership capability and capacity (Gilley, 2005). Day and Lord (1988) noted that executive leaders have a substantial impact on the organisation. They estimate that this is between 20% and 45% (once methodological issues have been addressed) of an organisation’s capacity is related to the function of leadership. This appreciation of the impact of leaders, coupled with the acceleration in the rate of organisational
change, has catapulted the leadership issue to the top of the corporate agenda (Howard & Wellins, 2009).

In their global leadership forecast, Howard and Wellins (2009) noted that 75 per cent of the 12,208 executives surveyed identified improving leadership capability as a top business priority. For many years, there has been concern regarding leadership capability in the global marketplace and the resultant impact on organisational capacity (Day & Sin, 2009). The specific concern has been finding and developing leaders who can manage and succeed within the context of the challenges that businesses are currently facing (Falkenberg & Ashurst, 2010). Falkenberg and Ashurst (2010) noted that there is a new and changing normal which leaders will have to lead from, and this will require leadership competencies with an emphasis on flexibility and adaptability. Yukl and Mashud (2010) reiterated the importance of flexible and adaptive leadership and the requirement that leaders adapt their style to suit the situational and contextual factors.

Within the Western Australian setting, the leadership issue is arguably an even higher priority. The mining boom of the last two decades resulted in labour shortages and ongoing challenges in recruiting and developing quality leaders (Stutchbury, 2010). This deficit in high-calibre candidates has been ongoing for many years and has significantly affected the ability of organisations to develop leaders to make up the shortfall (Lord, Jefferson, Klass, Nowak & Thomas, 2013). In the present context in Western Australia, with a slowdown in economic growth following a boom in the mining sector, there is likely to be a partial reversal of the issues around labour deficits in the next few years. However, the lack of leadership is likely to remain on the agenda due to the lack of focus on the development of leaders during boom times (Glenn & Polygenis, 2015). Global research has consistently referred to the lack of leadership across all sectors with an ongoing criticism of leadership development to deliver results in this space (Howard & Wellins, 2009).

Every year, organisations invest billions of dollars in enhancing leadership capability in the anticipation of meeting the challenge of coping with change (Howard & Wellins, 2009). However, the results of this development have been mixed and have not delivered the desired outcomes. There
is clearly a requirement for the development of new leadership competencies and for leaders to step up to the challenges that they face. Within this context, this thesis provides an alternate platform for assessing leadership capability and offering guidance on ways to enhance leadership development in the future. The establishment of a relationship between resilience and leadership will signify a requirement to shift the focus of leadership development. This changing focus on leadership development will need to be a shift from traditional methodologies to the development of malleable dispositional attributes to support enhanced leadership outcomes (Day & Lord, 1988; Day & Sin, 2009).

2.3 Malleable dispositional attributes and Leadership in the Twenty-first Century

Some of the key competencies identified as essential for leaders in the twenty-first century work environment are responsiveness to feedback, adaptability and flexibility, openness to change and innovation in problem-solving (Herd, Alagaraja & Cumberland, 2016). These are not competencies focused on the technical or intellectual aspects of work but on dispositions. Therefore, it is essential that there is a shift in focus towards the enhancement of malleable dispositional attributes that contribute to these competencies and enhance leadership capability (Hitt, Ireland & Hoskisson, 2003). Research has consistently shown that traits such as personality remain relatively consistent over time and are relatively resistant to change (Biro & Adriaenssens, 2013). Due to this observation of personality as relatively stable over time, measures of personality are only considered valid if they demonstrate test-retest reliability. Therefore, looking for a change in personality to bring about positive change in leadership has limited scope (Landy & Conte, 2016). Conversely, dispositional competencies such as resilience may offer new possibilities in terms of leadership enhancement (Garbowski, 2010). Attributes such as resilience, optimism and hardiness have been shown to be changeable over time and more amenable to developmental interventions (Seligman, 2011). Thus, these malleable dispositional attributes offer a new and different insight into a leader’s ability to be flexible and adaptable and to bounce back over time in the context of challenging and
changing circumstances (Herd et al., 2016). Establishing the links between malleable disjunctive attributes and leadership will add to the leadership debate and allow greater understanding of the ability of a leader to maintain flexibility in a changing environment (Sui, Wang, Yue & Luthans, 2012).

While resilience is a relatively new area of research in organisational psychology, clinical, educational and community psychology have provided consistent evidence of the impact of resilience on a broad range of positive outcomes (Doerfel, Chewning & Lai, 2013). Research provides evidence that resilience enhances individuals’ coping ability, well-being and positive life experiences (Forrest-Bank, Nicotera, Anthony, Gonzales & Jenson, 2014; Pfefferbaum, Noffsinger, Wind & Allen, 2014). Resilience research within the clinical field initially focused on how resilient individuals respond in the context of exposure to adverse circumstances (Lawrence & Callan, 2011; Tvedt & Saksvik, 2012). This area of research also investigated the impact of resilience on well-being and physical and mental health (Kerber & Buono, 2009; Van den Heuvel, Demerouti, Schreurs, Bakker & Schaufeli, 2009). Research in the community psychology area has tended to focus on trauma and the impact of significant trauma on communities or groups of people (Kirmayer, Sehdev, Whitley, Dandeneau & Isaac, 2009).

Within the organisational context, the focus of resilience research has been on individuals managing and bouncing back in the context of changing and challenging business environments while continuing to deliver acceptable levels of performance (Wagnild, 2009). Research in this setting has shown that resilience has a strong positive correlation with coping strategies, flexibility, the ability to manage change and the capacity to handle stressful events (Biron, Karanika-Murray & Cooper, 2012; Hätinen, Mäkikangas, Kinnunen & Pekkonen, 2013; LeBlanc, Regehr, Jelley & Barath, 2008). Research in the corporate setting linking resilience and leadership has only started to appear in the last 15 years in the organisational psychology literature. For example, Garbowski (2010) found that resilience was the most significant disjunctive variable in increasing the capacity to deliver a transformational leadership style. Garbowski (2010) in a discussion on the construct of
resilience differentiates between dispositional attributes and stable traits. The present research makes use of the same distinction regarding both resilience and each of the dimensions of resilience. All of the constructs used in the present study have researchers that view them as a stable trait and others that view them as a malleable dispositional attribute. Zaccaro (2007) argues that it is a combination of traits and malleable dispositional attributes that will provide greater clarity and predictability in the study of leadership. The focus on malleable dispositional attributes is a relatively new and evolving research area. The studies reported in this thesis (i.e., Study 1 and 2) focus on the impact of resilience (malleable dispositional attributes) on a leaders’ capacity to maintain a leadership style that is appropriate to the dynamic and challenging business context.

Based on the multidisciplinary review of resilience theory and research it was apparent that there have been limited attempts to define and review a model of leader resilience specific to the definition of resilience as an internal capacity (Fugate, Kinicki & Prussia, 2008; Hartmann, Weiss, Newman, & Hoegl, 2019; Garbowski, 2010; Kerber & Buono, 2009; Kossek, Ellen & Perrigino, Matthew. 2016; Lawrence & Callan, 2011; Tvedt & Saksvik, 2012; Wagnild, 2009, Werner, 1982). The lack of a model defining internal capacity was identified as an opportunity for a unique contribution to an important area of research. It is anticipated that the internal capacity model of leader resilience presented in the present research would allow for further validation and development of measurement tools that focus specifically on leader resilience.

Although the present research does not specifically deal with corporate outcomes, it provides a platform to link dispositional factors within leaders, their leadership style and organisational results. Study 1 and 2 make use of a well-established model of leadership, the transformational leadership model (Bass, 1985). The existing substantial body of research on organisational outcomes offers the opportunity to extrapolate the possible links between resilience, leadership style and outcomes. Research has consistently observed the positive impact of transformational leadership on a range of organisational outcomes (Barling, Weber & Kelloway, 1996; Bass, Avolio, Jung & Berson, 2003; Howell & Avolio, 1993).
Within the organisational research context, there has been a lack of definition and clarity regarding the underlying dimensions that allow individuals to bounce back and maintain resilience in a work context (Seligman, 2011; Wagnild, 2009). Attributes such as resilience have, in most instances, been measured as a single construct without consideration of possible dimensions (Sylvester, 2009). Where key researchers have used dimensions, these have been aligned with the diagnostics they have used, all of which were developed in a clinical setting (Garbowski, 2010).

Based on a multidisciplinary review of the literature, the studies reported in this thesis propose a model of leader resilience and a set of dimensions contextualised within an organisational leadership framework. The underlying dimensions are the focus of Study 1 and the developmental intervention in Study 2. The model of leader resilience provides a platform to open debate on leader resilience in the organisational context and offers the opportunity for further investigation and refinement of a model of leader resilience.

2.4 The Research Context

2.4.1 The Purposes of Studies 1 and 2

Studies 1 and 2 have three key purposes. The first is to add to the body of knowledge on malleable dispositional attributes and resilience in a business context. The present research proposes to add depth and clarity to this new area of research by investigating a model of leader resilience in an organisational setting (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). To date, there has been relatively limited research on resilience within an organisational context (Cooper, Flint-Taylor & Pearn, 2013; Offutt, 2011). However, there is very closely related research linking health and well-being to leadership (Macik-Frey, Quick & Cooper, 2008). The existing research has tended to focus on specific aspects such as the impact of resilience on work activities, e.g., teamwork, safety and the ability to cope with change (Kaplan & Waller, 2018). There has also been lack of clarity regarding the dimensions of resilience in the business context (Garbowski, 2010). Researchers in this space have utilised numerous measures and descriptors of resilience, which make it difficult to reliably identify a consistent trend in the research (Garbowski, 2010). The majority of the measures
have been taken from research in clinical psychology and were not developed to measure resilience within the organisational context (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). A review of resilience measures by Pangallo, Zibarras, Lewis and Flaxman (2015) also noted the inconsistencies of definitions and measures used to assess resilience. One of the key aims of the studies reported in this thesis was to research and develop a model of leader resilience that focuses on describing what resilience looks like in an organisational setting. The reason for developing the model was to articulate the underlying dimensions that enhance a leader’s ability to bounce back in the context of organisational challenge while remaining flexible and adaptable in a dynamic environment. The decision was made to develop a specific model of leader resilience that could be applied in an organisational context. There is presently no model of leader resilience in the research arena (Garbowski, 2010; Pangallo, Zibarras, Lewis & Flaxman, 2015; Sylvester, 2009). The aspects of an individual’s resilience relevant to a leadership role required a more precise definition for operationalisation of this into the developmental arena. It was deemed that a model of leader resilience would add significantly to the research on resilience in an organisational context. The measures of resilience and the dimensions of resilience used in the research were drawn from the clinical field. This use of clinical diagnostics was necessary due to the lack of measurement tools in the organisational arena. The use of these tools does pose challenges for the present research. However, there is an opportunity for further research to develop a tool for measuring leader resilience based on the model developed in the present research. The model was developed with a focus on leadership due to the critical role leaders play in an organisation. However, future research could potentially investigate whether the model could be applied more broadly in organisations to all employees.

The second key purpose of the two studies presented in this thesis is to explore the relationship between leader resilience and leadership style. This link will provide insight into the required attributes of leaders that enhance their ability to consistently deliver a transformational leadership style. Studies 1 and 2 propose a broadening of the leadership debate to focus on attributes
that enhance the ability of a leader to utilise an effective leadership style, rather than focusing on the issues of leadership effectiveness and outcomes. Much of the leadership research to date has concentrated on the leader and the leadership styles that enhance business performance (Hetland et al., 2008) and the impact of leadership on business outcomes (Drucker, 1999; Gilley et al., 2008; Ulrich, 1998). The studies reported in this thesis focus on the attributes of a leader that are essential for delivering an effective leadership style.

The third key purpose is to contribute to the debate on ways of enhancing leadership development outcomes. Research in the area of leadership development has lagged behind broader leadership research and there is limited research showing the impact of different types of development on leadership outcomes (Day & Sin, 2009). Quality studies in the area of leadership development are limited and results have been mixed (Day & Sin, 2009). Howard and Wellins (2009) found that even though leadership development is a multibillion-dollar business, 59 per cent of leaders surveyed were dissatisfied with the development they received over the period of a year. Day and Sin (2009) also articulated concerns related to the impact of leadership development on leadership and business outcomes. They postulated that the reason why leadership development shows a lack of effectiveness is that there is little in the way of scientific theory or research to guide developers. Some meta-analyses have established that significant change can occur as a result of leadership development (Burke & Day, 1986; Morrow, Jarrett & Rupinski, 1997). However, research indicates that the effects of leadership development can be non-significant and relatively short-lived (Campbell, Dunnette, Lawler & Weick, 1970). A more recent meta-analysis looking at training effectiveness Lacerenza, Reyes, Marlow, Joseph, & Salas, E. (2017) estimates that the effectiveness of leadership training is more effective than previously thought as measured across Kirkpatrick’s (1959) four criteria. They also note that the strength of the training is moderated by design, delivery, and implementation characteristics (Lacerenza, Reyes, Marlow, Joseph & Salas, 2017). The present research utilised a well-validated model of transformational leadership as a foundation for assessing the impact of developmental strategies on leadership style, thereby offering
organisations insights into new ways of enhancing leadership development outcomes. The studies reported in this thesis provide some clear insights into the impact of developing malleable dispositional attributes on leadership development outcomes.

2.4.2 Research Aims

Study 1 proposes a model of leader resilience with research-based dimensions, investigates and confirms the proposed model of leader resilience and the postulated dimensions of resilience, and investigates the relationship between leader resilience and leadership style (transactional and transformational).

Study 2 researches and develops an intervention to enhance leader resilience, investigates whether an intervention designed to enhance leader resilience can bring about a change in the self-assessed measure of resilience, and investigates the impact of developing leader resilience on leadership style based on a self-assessed and boss-assessed measure.

2.4.3 Unique and Significant Aspects of the Research

The studies reported in this thesis, although incorporating well-researched constructs, have some unique aspects that add diversity to the body of research in this area. They are notable in that they provide an opportunity to focus on leadership and leadership development from a different perspective. Previous research in the leadership domain has predominantly focused on understanding the impact of traits on leadership outcomes along with styles of leadership that deliver results. The focus on malleable dispositional attributes such as resilience is still a new and evolving area with limited research. The break with traditional approaches to this area of research to focus on the dispositional aspects that enhance an individual’s ability to lead effectively. The outcomes of this research will open up new and unique ways of viewing leadership and organisational development.

The development of a model of leader resilience with underlying dimensions specific to organisational psychology is another unique feature of the studies. Previous research in the leadership domain has predominantly focused on understanding the impact of traits on leadership
outcomes along with styles of leadership that deliver results (Saunders & Barker, 2001). The focus on malleable dispositional attributes such as resilience is still a new and evolving area with limited research. Researchers such as King and Rothstein (2010) have proposed models related to the process of leadership resilience in an organisational setting. However, the model suggested in the present research a model of leader resilience defining the internal capacity of the leader to cope with adversity and change. Some researchers have also proposed dimensions of resilience that have the capacity for enhancement and development however these have not been fully validated at this point (Patterson, Goens, Reed, & American Association of School Administrators, 2009). The present research not only proposes a model that is based on a multidisciplinary review of resilience research but also statistically tests the model of leader resilience.

The proposed model forms the first articulated model of leader resilience and identifies the dimensions of leader resilience specific to the organisational setting. The articulation of a model of leader resilience in the business context provides the opportunity for evolving discussions on leadership. The leader resilience model proposed in this research is based on a multidisciplinary review of research and offers an opportunity for researchers from a range of disciplines to come together to contribute to the evolution of a model of leader resilience. The model also makes it possible to more clearly define the links between leadership and malleable dispositional attributes. Because there are a limited number of studies investigating the relationship between resilience and leadership (Garbowski, 2010; Sylvester, 2009; Wasden, 2014), studies 1 and 2 will add to this new area of research, offering new insights and ways of understanding leadership. As a result of the proposed model, the studies reported in this thesis provide a greater understanding of how to develop the underlying dimensions that contribute to a leader’s ability to bounce back. They also provide an enhanced understanding of how to maintain well-being in an organisational context to ensure effective leadership in the twenty-first century.
Leadership and leadership development research have tended to focus on knowledge, behaviours, styles, techniques and outcomes (Landy & Conte, 2016). The studies reported in this thesis pave the way for a shift in focus towards the development of the leader’s internal malleable dispositional attributes. This emphasis on the development of the internal capacity of the leader will have significant implications for leadership development in the future. Day and Sin (2009) described this as leader development, as opposed to leadership development. The focus of the present research is on malleable dispositional attributes that contribute to the internal capacity of a leader. This focus on capacity offers unique insights which allow for a re-evaluation of the focus of leadership development. Other researchers for example McCormick (2001), have focused on internal aspects such as self-efficacy. However, the focus of the present research is on the higher-order construct of resilience with dimensions, including self-concept well-being which incorporates self-efficacy. The contribution of the present research to our understanding of the importance of developing the internal capacity of a leader is critical. Along with a focus on a model of leader resilience with a higher-order construct, the present research will bring about a change in the way leadership is viewed and developed.

The present research brings together a range of constructs from diverse areas of psychology—resilience, self-concept, locus of control, constructive thinking and leadership style—all of which have previously been treated as separate and independent constructs. This multidisciplinary research allows for the exploration of new ways of looking at malleable dispositional attributes linked with leadership and seeks to understand the relationships between these previously disparate constructs.

Study 2 was designed to assess whether leadership style can be developed using a workshop-based intervention focused on enhancing resilience. The focus of leadership development has traditionally been on developing leadership behaviours or styles that enhance leadership effectiveness. The studies reported in this thesis are unique in that they shift the focus away from
behaviours and style towards building the intra-personal attributes of a leader to enable them to deliver effective leadership behaviours and style.

Much of the research on resilience and leadership in the organisational field has focused on single organisations in either a military or government context (Garbowski, 2010; Offutt, 2011). Reivich, Seligman and McBride (2011) reported positive outcomes from developing resilience in leaders in a military environment. The present research is significant in that it moves away from a focus on a single organisation and draws on participants from a broad spectrum of businesses in the public, private and not-for-profit sectors. This broadening of data collection offers the opportunity to enhance our understanding of resilience in diverse working contexts.
Chapter 3: Leadership

This chapter will review the literature on the topic of leadership and elucidate the complexity of the interdependencies within this area of research. This chapter commences with an examination of leadership in the business context and the research that shows aspects of leadership that enhance organisational outcomes (Ashford & DeRue, 2010; Draghici & Draghici, 2007). An overview of the evolution of leadership research will provide context and clarify the use of the transformational model of leadership within the current research (Bass, 1985; Dansereau, Graen & Haga, 1975; Hersey & Blanchard, 1972). Then, the chapter undertakes a more in-depth examination of the full-range model of transformational leadership (Bass, 1985; Bass & Avolio 1997; Burns, 1978). This will include the measurement of transformational leadership with a particular focus on the MLQ (Bass, 1998; Howell & Avolio, 1993; Lowe et al., 1996).

3.1 The Twenty-first Century Leadership Environment

The business imperative for quality leadership research has consistently been articulated within the field of organisational psychology (Day & Sin, 2009; Landy & Conte, 2016). Practitioners of leadership development have known intuitively for many years that leadership is an essential component of organisational success and that different ways of leading produce dramatically different results. There has also been consistent agreement throughout the history of leadership research that different leaders and different models of leading produce different outcomes (Stogdill, 1948; Yukl, 1998). Yet, in much of the early work and in more recent research, there is disagreement on how and why leaders produce different organisational results (Hollander & Julian, 1969; Saunders & Barker, 2001).

The role of leadership and the competencies required by leaders to deliver organisational results has shifted in the past decade, and research has had to keep pace with these changes (Landy & Conte, 2016). In the present business context of a knowledge-based society and volatile economic and social environments, it is essential that leaders maintain and enhance organisational performance
and ensure alignment with the broader business context (Judge, Naoumova & Douglas, 2009). The maintenance of business outcomes in the twenty-first century requires leaders to deliver a competitive advantage for their organisation by continuing to achieve in the face of constant change and creatively find ways to benefit from new opportunities (Draghici & Draghici, 2007). Research shows that adaptive and flexible leadership competencies are critical in delivering the achievements mentioned above and ensuring that organisations remain competitive in today’s world (Bass & Avolio, 1990; Mann, 1959).

To enable companies to meet the challenge of work in the twenty-first century, it is critical that leaders develop new skills and ways of working that result in sustainable outcomes for themselves and their businesses (Landy & Conte, 2016; Schein, 2009; Taffinder, 1995). Therefore, for organisations to grow and flourish the issue of leadership and the changing requirements of leadership must be addressed research must provide meaningful guidance to businesses in their pursuit of leadership excellence (Day & Sin, 2009). The ability to ensure effective leadership is one of the essential components in the delivery of an organisation’s competitive advantage and allowing them to operate successfully in a dynamic marketplace (Smith & Kelly, 1997).

Given the importance of leadership in the organisational context, it is interesting to note that there have been repeated references to the lack of adequate leadership in organisations (Howard & Wellins, 2009). Ashford and DeRue (2010) noted that nearly 60 per cent of companies are facing leadership shortages and another 31 per cent expect the lack of leadership capability and capacity to negatively affect organisational outcomes. Leadership failures are estimated to cost businesses billions of dollars. Therefore, it is essential that further research on this critical business issue remains a priority (Hogan, Curphy & Hogan, 1994). What is needed is research that informs and guides organisations on how to achieve effective leadership thereby enhancing organisational outcomes (Avolio, Sosik & Berson, 2013). As the business community navigates the present complex environmental factors, they require practical research-based guidance on new ways of understanding leadership and leader development (Day & Sin, 2009).
3.2 Overview of Leadership Research

The empirical study of leadership style has evolved in the broad context of organisational psychology. Research in this area dates back over 70 years, to the writings of Lippit (1939; cited in Nelson & Quick, 2009). There have been numerous theoretical conceptualisations of leadership, many of which have attempted to define how leadership differs from management (Fiedler, 1967). There is now a substantial body of research with a broad focus on two areas: leadership characteristics and leadership effectiveness (Landy & Conte, 2016). The research on leadership characteristics dates back to the earliest research, the great man theories. This area of research sought to understand the different characteristics of leaders and the impact of these characteristics on organisational outcomes and success (Hollander & Julian, 1969; Stogdill, 1948).

Early leadership research focused on the links between leadership and personality traits, defining personality factors and traits associated with differing leadership styles and behaviours (Stogdill, 1948). Results were inconsistent and did not offer clarity on the link between leadership and personality (Hollander & Julian, 1969; Saunders & Barker, 2001).

The second broad area of research focused on leadership effectiveness, attempting to define models of leadership with a particular focus on leadership behaviours associated with effectiveness (Hogan et al., 1994; Landy & Conte, 2016). One of the principal areas of research in this arena focused on the transformational and transactional leadership model of leadership. This model evolved into Bass’s (1985) full-range leadership model, which remains one of the most researched models of leadership today (Landy & Conte, 2016; Waldman, Ramirez, House & Puraman, 2001). Dinh et al. (2014) noted that, while some leadership theories have not witnessed significant growth in the research frame, transformational leadership is still one of the most researched contemporary theories.

The development of what Bass and Avolio (1997) termed a full-range model of transformational leadership was a significant development in the broad leadership debate (Gardner, 1993; Weiner, Schmitt & Highhouse, 2012). The articulation of this model offers opportunities for
the revision and extension of research on leadership and leadership development (House & Shamir, 1993; Yukl, 1998).

There are diverse and inconsistent perspectives on the achievements of leadership studies in this wider context. Hogan and Ghufran (2011) argued that the empirical study of leadership has failed and noted the lack of substance provided by popular business books within the leadership field. Conversely, Avolio et al. (2013) argued that there had been substantial achievements in the understanding of leadership, particularly over the past decade. There does appear to have been a relatively sizable shift in thinking around leadership in recent times. For example, Lowe and Gardner’s (2000) review of published articles noted some important developments, one of which is the focus on transformational leadership developed by Bass (1998). The development of Bass and Avolio’s (1997) full-range model of leadership was a significant development in the broad leadership debate (Gardner, 1993; Weiner et al., 2012). This model of leadership has been systematically revised and extended to provide greater levels of clarity on leadership (Avolio & Hannah, 2008; Avolio, Sosik & Berson, 2013; Bass, Avolio, Jung & Berson, 2003; House & Shamir, 1993; Yukl, 1998).

3.3 The Evolution of Leadership Style Research

The evolution of research on leadership style can be categorised into seven key theoretical approaches developed over the previous 70–80 years: trait theories, behavioural theories, power theories, contingency theories, participative leadership theories, leader-member exchange theories and transformational/charismatic theories. The early theories focused on a trait-based approach and commenced with the great man theory of leadership (Callahan, Fleenor & Knudson, 1986; Stogdill, 1948). This theory attempted to define the characteristics that leaders possess that are absent in non-leaders (Stogdill, 1948). While Judge, Bono, Ilies & Gerhardt (2002) have shown that there can be a direct association between traits and effectiveness outcomes and the research in this area does offer some understanding on specific traits which may enhance leadership. However, research has not
shown consistent results or a direct association between traits, leadership outcomes and effectiveness (Hollander & Julian, 1969; Landy & Conte, 2016).

In the early 1950s, behavioural theories of leadership evolved as a new area of research in response to some of the inconsistencies found in trait theories. The University of Michigan and Ohio State University simultaneously began studying leadership behaviours. Fleishman and Harris (1962) from Ohio State University defined two basic dimensions of leadership behaviours: consideration and initiating structure. The University of Michigan researcher Likert (1967) identified three key behavioural dimensions: task-orientated, relation-orientated and participative behaviour. The focus on participation as an essential leadership behaviour represented a further development of leadership research. Yukl (1998) noted, however, that the results in this area were inconsistent and that the predominance of the use of questionnaires led to measurement errors and bias. There is, however, a fairly substantial body of research showing the impact of certain behaviours on leadership outcomes and the potential impact that changing behaviours has on subordinates (Landy & Conte, 2016).

Power-based theories of leadership developed in the 1950s as an attempt to better understand leadership from the perspective of the distribution of power. The theory of power relations in leadership was initiated by French and Raven (1959), who defined five power bases that influence leadership outcomes: legitimate, reward, expert, referent and coercive power. The concept that power plays a part in leadership outcomes was reviewed further by researchers such as Salancik and Pfeffer (1977). While the research in this area has shown some positive results (Salancik & Pfeffer, 1977), these power-based theories are not grounded in a fully defined model of leadership and only focus on one aspect of leadership. Yukl (1998) raised questions around the theories and their validity, showing that they are limited in their ability to explain the breadth and depth of leadership.

It became apparent that the use and effectiveness of both power and leader behaviour theories were contingent on other factors that these theories do not account for (Fiedler, 1967). Out of this, a new area of research evolved that focused on the contingent factors relevant to leadership. These contingency theories include theories such as Fiedler’s (1967) contingency model and Hersey and
Blanchard’s (1972) situational theory. Contingency theories postulated that the leadership approach utilised should be determined by the characteristics of the subordinate and the contextual setting. For example, House’s (1971) path-goal theory includes the features of the subordinate and the features of the situation. The definitions of four distinct styles of leadership are overlaid to form this contingency approach (House & Mitchell, 1974). The initial appeal of this theory provided impetus for research, some of which showed positive links between different leadership styles and situational contexts (House & Mitchell, 1974). However, it has been suggested that support for contingency theories is limited and that the results are inconclusive (Yukl, 1998).

Participative theories of leadership partly evolved from the earlier behavioural research with some of the initial investigation being undertaken by Ohio State University. This area of research developed as an attempt to define the characteristics and advantages of a participative style of leadership (Vroom & Yetton, 1973). Landy and Conte (2016) described these theories of participative leadership as constituting one of the stronger contributions to the leadership debate. There are elements of participative leadership incorporated in the transformational leadership model that form the foundation of the leadership focus for the studies reported in this thesis.

A further approach to leadership evolved in the 1970s, looking at the relationship between the leader and the subordinate—the leader-member exchange theory (Dansereau et al., 1975). This theory evolved from the contingency and participative leadership theories and postulated that leaders adopt different behaviours with different individuals who report to them. Over time, these behaviours form a consistent pattern and influence the experience of the subordinate and the group. Positive leader-member exchange relationships lead to increased subordinate satisfaction, better job performance, enhanced creativity and reduced intention to quit (Gerstner & Day, 1997; Tierney, Farmer & Graen, 1999). Gerstner and Day (1997) argued that although this theory offers a compelling proposition for understanding leadership. Bauer, Erdogan, Day & Miscenko (2015) note that LMX is a highly influential theory of leadership that offers a unique understanding of the relationship between the leader and the follower and is highly sighted in the leadership literature.
The study of leadership styles further evolved in the early 1980s, taking elements of participative leadership and behavioural leadership research (Bass, 1985). The focus for this research was defining the leadership styles that deliver positive outcomes (Bass & Riggio, 2006). Research looking at the impact of charismatic and visionary leadership styles demonstrated that these styles have a positive impact on organisational outcomes (Conger, 1989; Sashkin, 1988; Tichy & Devanna, 1986). Alongside this, research investigating the relationship between transformational and transactional leadership styles has shown that transformational leadership produces enhanced business outcomes (Bass, 1998). Out of these early conceptualisations of transformational leadership evolved one of the most extensively researched models of leadership, the transformational model (Bass, 1998; Bass & Avolio, 1990). This research culminated in the development of the first full-range model of leadership (Avolio et al., 1999; Bass et al., 2003; Bass & Riggio, 2006).

3.3.1 Defining the Full-Range Leadership Model

Within the domain of organisational psychology, leadership is conceptualised in a variety of ways with a broad range of research attached to these differing conceptualisations (Landy & Conte, 2016; Yukl, 1998). Over the years, numerous models of leadership have been developed and researched with little clarity as to which model best offers organisations a methodology for developing leaders. The first full-range leadership model was developed from the work of Bass (1985). The evolution of this full-range leadership model commenced with the work of Burns (1978) in his description of transformational and transactional leadership as a continuum of leadership. Bass (1985) extended this with a conceptualisation that defined them as two different styles of leadership. Both are seen as essential for efficiency; however, transformational leadership is more critical from an effectiveness perspective and for the relational aspects of leadership. This conceptualisation defines leadership as having three elements (Bass et al., 2003): internal (intra-personal), relational (inter-personal) and organisational.
Internal leadership (intra-personal) is a leader’s ability to maintain well-being and respond adaptively and flexibly to the environment, making effective business and inter-personal decisions. This ability requires that a leader possess, develop and maintain the malleable dispositional attributes of emotional management, effective cognitive processing and a sense of personal control.

The relational aspect of leadership focuses on the capacity of the leader to energise, engage and develop followers to respond adaptively and flexibly (Bass et al., 2003; Howell & Avolio, 1993). It also involves the essential ability of leaders to develop healthy relationships with followers that result in them being inspired to creatively find solutions and tackle challenges (Bass et al., 2003; Bass & Riggio, 2006).

Organisational leadership extends to the broader corporate context and the ability of the individual to guide an organisation through a changing and dynamic business environment (Bass, 1985, Bass et al., 2003; Sylvester, 2009). This broader organisational leadership is closely aligned to internal (intra-personal) leadership and relational (inter-personal) leadership. It requires that the individual be able to constructively assimilate information and objectively make decisions that strategically guide the people within the organisation towards an enhanced future. Organisational leadership outcomes also incorporate the ability to respond to external factors in the business environment (Saunders & Barker, 2001).

The focus of the present research is to investigate the link between internal (intra-personal) leadership, the personal resilience of the leader and the relational (inter-personal) leadership displayed in their leadership style (transactional and transformational). The present research acknowledges the outcome of leadership as an essential aspect of research on leadership and references the links to this area of the investigation (Bass et al., 2003; Sylvester, 2009). However, it is beyond the scope of the present research reported in this thesis to consider it in any detail.

3.3.2 Transformational and Transactional Leadership Styles

Burns (1978) was one of the first to articulate transformational leadership. This description was formed in a political setting and included the distinction of ethical and moral leadership. In
Burns’s (1978) view, there is a continuum from transactional leadership to transformational leadership. Bass (1985), one of the first organisational theorists to take up this line of research, built on Burns’s (1978) notion of transformational leadership and further developed this into the full-range model of leadership. Bass’s (1998) conceptualisation separated transactional and transformational leadership and defined the transformational aspect as building on transactional capacity.

In this conceptualisation, internal leadership is a leader’s ability to maintain his or her well-being and his or her internal adaptive capacity, which is essential for the delivery of successful transformational leadership. Transactional leadership entails an exchange between the leader and his or her subordinates that involves defining of role requirements, the offering of a reward for action and delivering corrective action when required. This exchange aims to ensure that followers can produce the necessary business outcomes. This theory proposes four levels of transactional leadership:

1. Laissez-faire—the leader abdicates responsibility and avoids making decisions, resulting in a lack of direction and the requirement for followers to step up and make decisions.
2. Passive management by exception—the only time the leader intervenes is when performance expectations are not met or when standards are not achieved, with resorting to punishment likely when performance is unacceptable.
3. Active management by exception—the leader actively monitors work standards, watching for mistakes or deviations from the rules and taking corrective action to ensure mistakes are minimised.
4. Contingent reward—the leader sets mutually agreed-upon and well-constructed goals, clarifies expectations, provides necessary resources and offers rewards for satisfactory performance.
Transformational leadership entails an exchange between the leader and their subordinates involving a higher level of interaction and engagement. Bass and Avolio (1997) proposed that transformational leaders utilise four strategies:

1. Idealised influence—the leader displays and articulates clear and positive values. He or she acts as a role model for followers by behaving in ways that are admirable, showing conviction and causing followers to identify with the leader.

2. Inspirational motivation—the leader articulates a vision that appeals to and inspires optimism in his or her followers, leading to the achievement of goals and offering a sense of meaning in the delivery of the work.

3. Intellectual stimulation—the leader challenges assumptions, encourages creativity and helps followers to overcome obstacles that get in the way of success.

4. Individualised consideration—the leader connects with individual team members and understands and attends to their needs while acting as a coach and mentor. The leader displays respect for everyone and appreciates both the individual and the team contribution that results in the inspiration of followers towards achievements.

These four strategies are utilised by leaders to engender trust, loyalty, and respect from their followers. This results in their followers moving beyond self-interest to the delivery of organisational objectives (Bass, 1985, 1998).

3.3.3 Research on Transformational Leadership

The conceptualisation of leadership outlined in the previous section has attracted a lot of interest, with over 3,600 research papers and dissertations on the topic. This section will review the research that has been conducted to articulate the model and criticisms of the full-range leadership model (Bass, 1985).

There is a substantial volume of research evidence confirming the construct of transformational and transactional leadership and the factors that make up the model (Bycio, Hackett
& Allen, 1995; Piccolo et al., 2012). This has been replicated through research evidence confirming the six-factor model of transformational leadership (Antonakis et al., 2003; Avolio et al., 1999).

Research on the impact of transformational leadership in organisations has consistently shown the positive impact of this style of leadership in various domains. Research shows that transformational leaders deliver higher levels of motivation and increased social identification in their followers (Lowe et al., 1996; Shamir, Zakay, Breinin & Popper, 1998). Research has also shown that transformational leaders affect followers by enhancing their job attitudes, performance at work and self-concordant work goals (Bono & Judge, 2003). Transformational leaders have been shown to offer greater levels of recognition of teams and enhanced responses to the emotional needs of followers, resulting in increased motivation (House & Shamir, 1993). Increased self-efficacy and the overall satisfaction of followers has also been linked to transformational leadership (Bono & Judge, 2003; Fuller, Patterson, Hester & Stringer, 1996; House & Shamir, 1993). Research also shows that transformational leadership positively predicts measures of employee well-being (Arnold, 2017; Kuoppala, Lamminpää, Liira & Vainio, 2008; Skakon, Nielsen, Borg & Guzman, 2010). For example, Kelloway, Turner, Barling & Loughlin, (2012) found that transformational leadership had a positive impact on self-rated employee well-being and that active management by exception and laissez-faire behaviour negatively impacted self-assessed well-being. They also found that employee trust in leaders mediated these relationships (Kelloway, Turner, Barling & Loughlin, 2012).

Transformational leadership has been theoretically and empirically linked to research on effective organisational culture (Denison & Mishra, 1995). During the 1990s, some studies showed that cultural orientations that focus on transformational qualities are conducive to higher levels of business performance (Denison & Mishra, 1995; Gordon & DiTomaso, 1992; Smart & St. John, 1996). Bass and Avolio (1993) argued that leadership and culture are so interconnected that it is possible to describe an organisational culture characterised by transformational qualities. Similarly, Xenikou and Simosi (2006) defined transformational leadership as a key component in creating
healthy organisational cultures which deliver enhanced outcomes. Transformational leadership has also been shown to underpin a culture of ethical organisational behaviour (Ciulla, 2009; Gardner, Avolio & Luthans, 2005; Karakas, 2009). There is also a body of research that shows the relationship between transformational leadership and leaders having an enhanced ability to effectively manage organisational challenges (Gilley, 2005; Lawler & Worley, 2012). Research has shown that transformational leadership results in enhanced business outcomes such as financial performance and business performance (Bass et al., 2003; Walker, Smither & Waldman, 2008; Walumbwa, Wang, Lawler & Shi, 2010).

Research has consistently shown that Bass’s (1985) model of leadership offers one of the most advanced theories of leadership and provides both a full-range model of leadership and a well-validated diagnostic for measurement (Avolio et al., 2013). As with many of the leadership models, there is also a body of criticism levelled at the transformational leadership model (Lowe et al., 1996; Yukl, 1998). Some of this criticism is related to confusion around overlapping constructs (van Knippenberg & Sitkin, 2013). Charismatic leadership articulated by House (1971) and transformational leadership defined by Bass (1985) have been described in research as though the models are synonymous. In much of the early critical analysis, charismatic and transformational leadership styles were treated as though they were the same construct, even though they are different and do not measure the same items (van Knippenberg & Sitkin, 2013). The charismatic leadership model focuses on personal traits of leaders, while the transformational leadership model is behaviour based with limited links to attributes (den Hartog & Koopman, 2001; Yukl, 1998).

There has been consistent criticism levelled at much of leadership research regarding common method variance with the view that this leads to inflated correlations (Antonakis, 2001; Brannick, Chan, Conway, Lance & Spector, 2010). This criticism has some validity, as it is common practice to make use of single-source measurement in this area of research. Lowe et al. (1996) found different results for self-assessment and follower-assessment, reiterating the challenges of this research strategy. They found that although there was a strong correlation with both measures on
the transformational leadership scale, there was a significant difference between self-evaluation scores and followers’ evaluation scores. Hunt and Conger (1999) noted an opportunity to broaden the research in this area and utilise a broader range of research techniques. There are some challenges to using other methods in an organisational context that will need to be overcome to make this a reality. A broader range of measures inclusive of a boss, subordinate and business measures have been suggested to balance the issues around common method variance (Brannick et al., 2010; Lowe et al., 1996). The present research makes use of self-assessment and boss-assessment in Study 2 to address this criticism of common method variance.

There has also been criticism levelled at the focus on outcomes of transformational leadership and the lack of focus on how a leader might go about developing these capabilities or even what the underlying skills or competencies that align with a transformational leadership style are (Hunt, 1991; Parry, 1998). This gap in the research, with a lack of exploration of the developmental activities likely to enhance a leader’s capacity to deliver transformational leadership (Cooper, Flint-Taylor & Pearn, 2013; Garbowski, 2010; Offutt, 2011). A leader’s underlying capabilities and the development thereof is one of the primary objectives of the studies reported in this thesis. The studies seek to identify the malleable dispositional attributes of individuals that enable them to consistently utilise a transformational style.

Yukl (1998) argued that the level of emphasis in the transformational model is limited, noting that its focus is predominantly on dyadic relationships. Although much of the research maintains this focus, the model itself conceptualises leadership in the broader context of organisation leadership. There is an opportunity within the leadership debate to broaden the research to look at the impact of leadership on teams and businesses. There is a more recent area of research developing that looks at the interplay between the transformational leadership research and leader-member exchange research; this may go some way to bridging this gap (Liden, Erdogan, Wayne & Sparrowe, 2006; Nielsen, & Munir, 2009). There is also research indicating that although transformational leadership has a positive impact on followers, the results may have been overstated with the impact
being moderated by the followers’ work characteristics and their self-efficacy. (Nielsen & Munir, 2009).

Within the field of leadership research, there has been limited focus on the dysfunctional attributes of leaders (Leary, Green, Denson, Schoenfeld, Henley, & Langford, 2013). This limitation is a valid criticism and indicates a potential challenge to the concept of a full-range leadership model (Bass, 1985). Some of the very serious ethical and moral issues arising in current organisational and leadership contexts would indicate that the full-range model may not have the capacity to incorporate these negative aspects of leadership (Pendse, 2012). Bass (1998) did define laissez-faire leadership as the less functional aspect. However, there is no definition of truly unhealthy leadership, such as unethical or narcissistic leadership (den Hartog et al., 1997). The theoretical models that have dominated leadership research have tended to focus on a range of styles from slightly less than optimal to highly functioning. From an organisational and leadership perspective, the issues around dysfunctional leadership have become more relevant as a result of some of the business disasters that have occurred in recent times (Pelletier & Bligh, 2008). This has given rise to a new wave of research examining narcissism and corporate sociopaths that more fully investigates these issues of dysfunctional leadership (Boddy, 2014; Henning, Wygant & Barnes, 2014; Twenge & Campbell, 2009). There is also criticism that transformational leadership research does not focus on the negative outcomes of leadership (Hogan, Raskin & Fazzini, 1990). Some studies have noted that the transformational style may have negative and detrimental consequences that the leadership debate has failed to address (Harrison, 1987; Hogan et al. 1990).

There is both strong research support for Bass’s (1985) model of leadership and some valid criticisms of the model. However, it remains the dominant model of leadership in research today. The next section will review the research on the operationalisation of transformational and transactional leadership through the MLQ. This will articulate the extensive use of this measure and the consistency of the results achieved through its application (Antonakis et al., 2003; Avolio et al., 1999).
3.3.4 The Multifactor Leadership Questionnaire

One of the key factors in the ongoing research on transformational and transactional leadership has been the development and validation of the MLQ. Bass (1985) researched and developed the MLQ (Form 1) to measure the behaviours associated with transformational and transactional leadership based on a seven-factor model. This questionnaire has been shown to consistently measure the differences between transformational and transactional leadership (Avolio et al., 1999; Lowe et al., 1996; Tejeda, Scandura & Pillai, 2001).

The original study by Bass (1985) confirmed a seven-factor model of transactional and transformational leadership. The original seven-factor model measured charisma, inspirational leadership, intellectual stimulation, individualised consideration, contingent reward, management by exception and laissez-faire leadership (Bass, 1985). Bass (1998) later combined charismatic and inspirational leadership, as he found that they were empirically very closely aligned. The outcome of this was the six-factor model of leadership, which formed the basis of further investigation (Bass, 1998). Later researchers proposed that some of the factors had clear associations and overlaps, leading to further revisions incorporating two higher-order factors, transformational and transactional. This model is the basis of the MLQ (Form 5X) (Bass & Avolio, 1993). Avolio et al. (1999) tested this modified six-factor model with the higher-order factors of transformational and transactional leadership and confirmed support for the model and the factors. They examined the fit of the MLQ to nine different models (n = 3,786) and found that two higher-order factors and six lower-order factors were the best representation (Avolio et al., 1999).

There has been criticism levelled at the use of factor analysis in definitions of the behaviours of transformational leaders (Hunt, 1991; Yukl, Kim & Falbe, 1996). Bass and Avolio (1993) conducted extensive reviews and validations of the factors and the model. Although the use of factor analysis was criticised, these studies have gone some way to responding to the limitations noted by critics (Avolio et al., 1999; Bass & Avolio, 1993).
Another criticism of the MLQ has been on the level of intercorrelation between the factors. This criticism indicates that they may not be measuring different underlying factors (Bycio et al., 1995). Bass (1998) argued that the intercorrelations are accurate and that the factors are highly interrelated. These relationships, in Bass’s (1998) view, enhance the validity of the higher-order elements of transformational and transactional leadership. Much of the critical analysis was based on studies using small samples that did not allow for the use of more sophisticated techniques of analysis such as structural equation modelling (SEM) and confirmatory factor analysis (Avolio et al., 1999). There has been extensive validation of the MLQ (Form 5X), and although there are criticisms of this diagnostic, it is still one of the most utilised measures of leadership style.

3.4 Transformational Leadership Research and Resilience Research

The previous sections have shown that the research on transformational and transactional leadership is well established and that the full-range model of leadership and its measure, the MLQ (Form 5X), have been systematically validated. However, there are still some gaps in the literature that have not been addressed and provide an opportunity for further research to enhance the impact on leadership effectiveness. The criticism that the transformational leadership model does not focus on the underlying capacity of the leader provides an opportunity for such research (Hunt, 1991; Parry, 1998). It is in this context that research investigating the link between leadership and malleable dispositional attributes such as resilience started to emerge (Garbowksi, 2010; Sylvester, 2009). Furthermore, the organisational context of leadership with constant challenges and the changing nature of businesses are driving the demand for this link to be more thoroughly investigated (Draghici & Draghici, 2007). Some of the most critical components of effective leadership today are the ability to assess issues objectively, make balanced decisions, remain emotionally stable and be able to adapt to the constant change that is a regular part of business life (Draghici & Draghici, 2007). This ability requires a level of personal leadership that comes from internal balance and the capacity to bounce back. The transformational leadership model does not fully explore the dispositional aspects that impact on an individual’s ability to deliver positive
behaviours (Garbowsk, 2010). It is essential that the understanding of leadership be broadened to incorporate the personal capacity of individuals and the impact of this on leaders’ ability to deliver a transformational leadership style. Dispositional factors such as resilience offer a broader perspective and add to the breadth of understanding of leadership (Garbowsk, 2010; Howell & Avolio, 1993; Sylvester, 2009).

Research looking at Authentic Leadership provides some insights and focus on the dispositional aspect impacting individuals to deliver effective leadership (George & Sims, 2007; Walumbwa, Gardner, Wernsing, & Peterson, 2008). Walumbwa et al. (2008) developed a model of authentic leadership that incorporates leadership self-awareness, relational transparency, internalized moral perspective and balanced processing. These are defined as aspects of the authentic leaders and have strong links to the model of leader resilience defined in the present research. Walumbwa et al.’s., (2008) leadership self-awareness is similar to self-concept well-being, and balance processing aligns with constructive thinking in the present research. Authentic leadership research provides insights into dispositional attributes of leaders which they define as aspects of their model of leadership (Walumbwa et al.’s., 2008). However, they do not define a full range model of leadership, nor has there been systematic and ongoing research and development of this model. The present research makes use of one of the most established and highly researched full-range models of leadership.

There are a small number of recent research dissertations and papers that have specifically focused on the link between resilience and leadership. This research has found a significant association between the two constructs (Garbowsk, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). This research is discussed in Chapter 6, building on the in-depth examination of the broader resilience research in Chapter 4 and the proposed dimensions of leader resilience presented in Chapter 5.
Chapter 4: Resilience

This chapter discusses the relationship between leadership style and resilience, building on the exploration of the research on leadership and leadership style presented in Chapter 3. This relationship is highly complex and draws on research from multiple disciplines and research areas, including clinical, educational, community, social and organisational psychology (Richardson, 2002).

This chapter examines the aetiology of the construct of resilience, including some of the early research that has informed the research context. The chapter then presents an overview of the debate on the definition of resilience as either a trait, with stability and limited capacity for change, or as a dispositional attribute, with adaptive capacity and the ability to change over time (Anthony, 1987; Rutter, 1999). This review will be discussed under four broad domains: 1) early research that predates the use of the term ‘resilience’ and adds to the resilience research (Erikson, 1950); 2) research focused on resilience in a broad societal context and on groups, rather than individuals (Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum, 2008; Sonn & Fisher, 1998); 3) research focused predominantly on the effect of resilience on the human capacity to withstand adversity (Garmezy, 1974; Werner, 1982); and 4) research within the organisational and leadership context (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). The chapter then presents the proposed model of leader resilience and the research that has informed the development of this model (Garmezy, 1974; Keyes, 2007; Rutter, 1999; Wagnild, 2009).

4.1 The Origins and Definition of Resilience

The term ‘resilience’ did not originate within the field of psychology. Therefore, it is useful to look at the development of this concept in other domains to better contextualise its use within the field. Early uses of the word resilience appeared in the physical sciences in descriptions of substances and materials in terms of their elasticity or ability to bounce back (Hollnagel, Woods & Leveson, 2006). Other early references to the term resilience occurred in the study of ecology.
Holling (1973) described how natural ecological systems rebound from disasters or change and display the ability to bounce back.

Early use of the construct of resilience in the field of psychology was in relation to children and their ability to cope with adverse environmental circumstances and bounce back from challenges (Garmezy, 1991; Werner, 1982; Werner & Smith, 1992). Wolin and Wolin (1996), for example, used resilience to describe bouncing back from challenges and difficulties. The various definitions started to incorporate greater breadth and include the generative capacity of individuals to cope with disruptive events and maintain healthy physical, psychological and psychosocial functioning (Bonanno, 2004).

Rutter (2012), one of the key researchers in this area, defined resilience as ‘reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences’ (p. 336). This reduced susceptibility to the environment is strongly linked to the conceptualisation of the intra-personal (within person) aspects of leadership utilised in the transformational leadership model. Keyes (2002) defined resilience as a continuum of human capacity from languishing to flourishing, incorporating all aspects of well-being. Keyes (2002) defined the determining factors of resilience as emotional, psychological and social well-being and identified the need for individuals to manage their levels of well-being to maintain their health, vitality and ability to flourish. Another key researcher in this area, Wagnild (2009), described resilience as ‘the ability to adapt or bounce back following adversity and challenge, and connotes inner strength, competence, optimism, flexibility, and the ability to cope effectively when faced with adversity’ (p. 29). Using this definition, Wagnild (2009) developed the multidimensional Resilience Scale, the measure used in Studies 1 and 2.

The evolution of the research on resilience has been plagued by confusion regarding the conceptualisation of the construct. This confusion is compounded by the different methods of measurement and the broad range of definitions both in the organisational and in the full arena of psychology (Britt, Shen, Sinclair, Grossman & Klieger, 2016). There are two main distinctions in
the research identified by Britt et al. (2016, p. 380) "the capacity for resilience and the demonstration of resilience." The present study focuses on the capacity of the leader, which enables their ability to demonstrate it in their leadership. In addition to these two conceptualisations, others define positive growth as a prerequisite for resilience (Frazier et al. 2009). In outlining "the capacity for resilience", Britt et al. (2016) define this as being a personality trait. While the present research does align with resilience as a capacity, it specifies that this is a malleable dispositional attribute, not a trait. The "demonstration of resilience" as defined in Bonanno’s (2012) work identifies a range of trajectories of functioning over time when faced with adversity. The present research does not examine the demonstration of resilience in the context of the difficulty. However, it provides a conceptual and research link to the trajectory of leadership linked to the capacity of the individual. Leaders face adversity daily in the volatile and continuously changing organisational context (Lewis, Goodman & Fandt, 2000). Therefore, inherent in the conceptualisation of the model of leader resilience, in the present research, is the understanding that leaders will face challenges and adversity.

While the present research does not define resilience in terms of positive growth, a key element of study two was to assess whether resilience can be developed and enhanced through well-designed interventions. The resilience intervention was designed based on the proposed model of leader resilience, which aligns with the research on the capacity of the individual. Britt et al. (2016) suggest that future researchers should build models of resilience that are clearly defined. In alignment with this suggestion, the present research provides a research-based model of leader resilience for consideration and further research.

The model of leadership resilience utilised in Study 1 and 2 is aligned to the definitions of resilience as an internal capacity of the individual which enables them to bounce back and overcome work related adversity in their capacity as a leader (Bass, 1985; Bass et al., 2003: Britt et al., 2016). This internal capacity is also defined as a malleable dispositional attribute that can be developed and enhanced and has a direct impact on the individual’s ability to deliver an effective Intra-personal leadership. In the full-range model of leadership, requires that a leader can respond adaptively and
flexibly to the environment and assimilate information accurately to make decisions (Bass, 1998). A leader’s resilience encompasses this intra-personal capacity and allows the leader to lead in a transformational way. This ability also aligns with other definitions that note that resilience is the capacity to adapt differentially to challenge and adversity (Hardy, Concato & Gill, 2004).

Research describes resilience as the capacity to bounce back and maintain well-being as a higher-order construct that allows us to understand the reactions of individuals within dynamic and challenging contexts (Judge, Erez, Bono & Thoresen, 2002). In the present research, resilience is defined in the organisational context and aligned with leadership capability, necessitating a specific definition of leader resilience in the organisational context. Leaders face challenge and adversity daily in the present business context, and this requires a level of agility and the capacity to bounce back that is different from other non-leaders (Draghici & Draghici, 2007). This heightened need for enhanced levels of resilience was one of the critical factors that precipitated the focus of the present research. Within this context, the definition of leader resilience is as follows:

‘The capacity of the leader to bounce back from adversity and flourish in the face of challenges and change while maintaining healthy levels of psychological, emotional and cognitive well-being.’

4.2 Resilience: A Malleable dispositional attribute or Trait?

Within the framework of individual differences, there is an ongoing debate regarding the conceptualisation of the construct of resilience (Lee et al., 2013). Some researchers view resilience as a trait that has stability and is intransigent to change (Anthony, 1987). Conversely, others view it as a malleable dispositional attribute that is adaptable, flexible and has the capacity for development (Reivich, Gillham, Chaplin & Seligman, 2013; Robitschek & Keyes, 2009; Wagnild, 2009).

In early research on resilience, definitions aligned with the conceptualisation of a trait with some of the early discussion using the term invulnerability (Anthony, 1987; Rutter, 1985). This denotes fixed qualities that make an individual susceptible or resistant to adversity and places it within the framework of a trait (Rutter, 1985). There is research showing that resilience indicates a
consistent temperament or predisposition that is innate to the individual (Neiger, 1991; Richardson, Neiger, Jensen & Kumpfer, 1990).

More recent research has suggested that resilience is more of a malleable dispositional attribute, rather than a stable trait (Rutter, 2012; Wagnild, 2009). Wagnild (2009) argued for the adaptive capacity of resilience and showed that it can be developed and bring about improved health and vitality. Defining resilience as malleable dispositional attribute incorporates Rutter (2012) conclusions that resilience is a process and that the outcomes of the process could be changed with interventions designed to enhance resilience. The evolution towards the conceptualisation of resilience as a dynamic and malleable dispositional attribute has had an influence on all areas of resilience research including organisational psychology (Garbowski, 2010; Garmezy, 1993b).

Masten (2001) defines resilience as a phenomenon that produces good outcomes for the individual in the context of threats. Resilience is seen as a conventional capacity arising from the ordinary human ability to adapt (Reich, Zautra, & Hall, 2010). The model of resilience defined by Masten (2001) incorporates four aspects, risks, assets, protective factors and their implications for outcomes. Research indicates that there are multiple assets such as self-perception and intellectual functioning and that these act as moderators of risk in the context of threats (Reich, Zautra, & Hall, 2010). This work has led to investigations into adaptive systems that support individuals in managing risk (Masten & Obradović, 2006). This conceptualisation of adaptive system aligns with the present research which defines resilience as a malleable dispositional attribute. Lee et al.’s (2013) meta-analysis of resilience found that factors such as self-efficacy and positive affect have a greater influence on resilience than personality factors (traits). Both self-efficacy and positive affect are described in research as malleable dispositional attributes that are adaptable and amenable to change (Bandura, 210). Resilience (a malleable dispositional attribute) has been demonstrated to have a significant positive impact on the coping capacity of a leader (Offutt, 2011; Sylvester, 2009).

In the organisational context, research to date has defined resilience as a malleable dispositional attribute (Garbowski, 2010; Reivich et al., 2011). There is a growing body of research
that conceptualises resilience as a malleable dispositional attribute with the capacity for adaption and development over time and across circumstances (Reivich et al., 2013; Wagnild, 2009; Rutter, 2012). This conceptualisation of resilience as a malleable dispositional attribute highlights the possibility that interventions can be designed to enhance resilience and bring about change in an individual’s capacity. This is supported by research that has shown that levels of resilience can be developed and improved with well-constructed workshops (Robitschek & Keyes, 2009; Wagnild, 2009). Research has also demonstrated the capacity of individuals to change and increase their levels of resilience through a range of other developmental strategies such as coaching and mentoring, indicating support for this conceptualisation of resilience as a malleable dispositional attribute (Forgeard & Seligman, 2012; Maddi, 2013; Reivich, Gillham, Chaplin & Seligman, 2013).

4.3 The Evolution of Resilience Research

Over the last three decades, there has been a significant paradigm shift within the field of psychology that has defined a new direction for research of human attributes and their impact on an individual’s capacity (Richardson, 2002). The deficit- and problem-orientated frame of reference has given way to a strength-based approach to disorders and therapeutic interventions (Richardson, 2002; Rutter, 1999). The construct of resilience falls within this broad strength-based approach and adds to the body of knowledge developing within this area (Wagnild, 2009).

Resilience is an evolving of research in organisational psychology, so it is necessary to investigate a breadth of research across all the psychological disciplines and domains. Resilience research has evolved within a multidisciplinary framework and falls into four distinct domains (Garbowski, 2010). The following sections undertake a multidisciplinary review covering the development and evolution of the understanding of resilience within four key domains. Each of the domains has a very specific focus and direction and provides a differential insight into the understanding the construct of resilience.
4.3.1 Domain 1: Early Identity Research

The first domain of resilience research predates the use of the term resilience in the human sciences. Early research in the human sciences looked at constructs such as emotional well-being and identity that are now described as underlying factors in the ability to bounce back and remain resilient (Adler, 1979; Erikson, 1950; Stogdill, 1948). These early researchers acknowledged and investigated the impact of these constructs on human behaviour (Adler, 1979; Erikson, 1950). Research in this domain had a strong research focus on trait theories and sought to define traits that deliver consistent outcomes and behaviours (Stogdill, 1948).

The work of researchers such as Erikson (1950, 1968, 1980) and Adler (1979) around identity and well-being formed the foundation of the research that now influences the resilience debate. These early researchers did not utilise the term ‘resilience’, but their research aligns closely with modern resilience research and gives some early indications of the importance of malleable dispositional attributes to human functioning. In the discussions of these early researchers, the topics of psychological, social and emotional well-being were central. Erikson (1950, p. 203) stated that a ‘sense of identity provides the ability to experience oneself as something that has continuity and sameness and to act accordingly’. He posited that the evolution of identity is a crucial developmental stage through which individuals must move before establishing meaningful and intimate relations with others (Erikson, 1980). This focus on identity influenced some of the early thinking around the importance of developing individual identity to maintain well-being and enhance an individual’s ability to interact healthily with others (Baumgardner, 1990; Campbell, 1990). Further research has supported Erikson’s (1980) perspective, showing that a strong sense of identity promotes a sense of control over outcomes and generates positive affect and confidence in oneself and about others (Baumgardner, 1990). This strong identity is closely related to some of the constructs associated with resilience, such as psychological well-being and self-concept (Campbell, 1990; Keyes, 2004). The present research defines one of the dimensions of resilience as self-concept well-being. The
definition of self-concept well-being used in the present research incorporates the constructs of self-concept and psychological well-being (Campbell, 1990; Ryff, 1989).

In Viktor Frankl’s (1963) book, *Man’s Search for Meaning*, and his early descriptions of logotherapy, we again see the descriptions of identity, self-concept and meaning, and their positive implications for health and functioning. Logotherapy is a therapeutic model based on the concept that individuals who develop a sense of purpose in life will enhance their motivation and cope more effectively in challenging conditions. Frankl’s (1972) research into the link between a sense of meaning in life and health and happiness continued within this framework. When viewed from a resilience perspective, this closely aligns with the findings of research around self-concept and the importance of meaning in life (Campbell, 1990). This meaning in life is a key element of self-concept well-being, one of the proposed dimensions of leader resilience defined in the studies reported in this thesis.

**4.3.2 Domain 2: Resilience in a Broad Societal Context**

The second domain of resilience research falls within the community and cultural context and focuses on the factors that assist in the adaptation of a community to challenging contexts (Tajfel, 1981; Trickett, 1996). There is a body of research that focuses on the adaptation of groups in the context of oppression and minority experiences (Sonn & Fisher, 1998; Tajfel, 1981; Trickett, 1996). The research shows that adaptation to challenging environments enhances resilience within the community (Norris et al., 2008).

Sonn and Fisher (1998) reviewed the implications of resilience in the context of oppressive social systems. They noted that communities cope with oppression and display resilience, even though others may describe this as capitulation (Sonn & Fisher, 1998). Elsass (1992) investigated the impact of resilience on ethnic minorities and found that resilience levels had a significant impact on their ability to cope with external factors. These studies have provided a substantial body of research that while being fragmented has broadened the resilience debate and paved the way to
studying resilience in groups, with significant implications for broader organisational research in the future. There is, however, no direct link to the present research.

4.3.3 Domain 3: The Effect of Resilience on Human Capacity

The third domain of resilience research—and probably the most dominant to date—is research focused on the human capacity to withstand adversity (Garmezy, 1974). This domain has had a significant impact on the conceptualisation of the resilience construct, and much of the organisational research draws heavily on the learning from this domain (Werner, 1982). The origins of the research in this domain derive from investigating how exceptional individuals successfully overcome adverse circumstances. The research in this area initially focused on the conceptualisation of these individual differences as fixed traits that allow individuals to respond differently to stress and adversity (Werner, 1995).

The research in this domain, while initially focused on children, fairly quickly broadened to include adolescents, adults and the ageing (Garmezy, 1974; Werner, 1982). Garmezy’s (1974) research showed that some children exposed to mothers with mental illness were healthy and functioning despite their adverse environmental circumstances. Another foundational study within this domain was the work of Werner (1982). Werner and Smith’s (1992) longitudinal study investigated the resilient qualities in young people that allowed them to do well despite environmental risk factors. Studies examining qualities that mitigated environmental risk factors reiterate these findings at various developmental stages and in various contexts (Benson, 2006; Richardson, 2002). The qualities are described as protective factors that help individuals bounce back from adversity and/or stress (Rutter, 1985).

The focus on understanding individual differences in responses to adversity has led to the definitions of a process of resilience with implications for human capacity (Rutter, 1985). Although early research in this domain tended to describe resilience as a trait, many of the key researchers conceptualised resilience as a dispositional attribute. Wolkind and Rutter (1985), for example, demonstrated the capacity for change in resilience and showed that interventions designed to
develop resilience reduced emotional disturbance. Rutter (1999) also identified some key mental features that assist the individual in managing their conceptualisation of events and enhancing their resilience: planning, self-control, self-agency, self-confidence and determination. He also articulated the importance of social relationships in improving resilience, including maternal and sibling warmth and a positive atmosphere in the home. Rutter (2012) also describes resilience as a dynamic process within the individual that may fluctuate over time and experience. Keyes (1998, 2002, 2004, 2007) supported Rutter’s definition by describing a continuum model of resilience that extends from languishing to flourishing. Robitschek and Keyes’s (2009) articulation of resilience also focused on malleable dispositional attributes using three factors that make up resilience: emotional well-being, psychological well-being and social well-being. Keyes (1998, 2002, 2004, 2007) showed that personal growth initiatives can enhance resilience and overall mental health. The conceptualisations of Keyes (2007) and Rutter (2012) closely align with and have informed the studies reported in this thesis.

Resilience studies in this domain have shown strong positive correlations between resilience and various aspects of well-being, including adaptive capacity and healthy emotional functioning (Abiola, & Udofia, 201; Cooper, Flint-Taylor & Pearn, 2013; Keyes, 2007; Rutter, 2012; Wagnild & Collins, 2009; Werner, 1982). Researchers have also noted that resilience enhances an individual’s capacity to live free of psychological dysfunction (Adler, Williams, McGurk, Moss & Bliese, 2015; Diehl & Hay, 2010; Keyes, 2007; Richardson, 2002; Rutter, 2012). There is a body of research within this domain that has identified an association between resilience and positive outcomes in various areas: positive life outcomes for individuals, adaptive patterns of social behaviour in teenagers, the adaptive functioning of children raised in high-stress environments and developing competence and autonomy (Bleuler, 1978; Brockner, 1988; Garmezy, 1993b; Lipsitt & Demick, 2011; Madzar, 2001). Research has also revealed correlations between resilience and increased academic attainment in school, reduced internalisation of disorders in children with anxiety and depression, the ability of children to maintain balance and cope with adversity and
misfortune, and improved wellness in trauma survivors (Harvey, 2007; Reivich et al., 2013; Rutter, 1999; Wagnild & Collins, 2009; Wagnild & Young, 1993). For example, Keyes (2004) showed that flourishing adults with enhanced levels of well-being have better emotional health and lower limitations in daily functioning. Research exploring diminished levels of resilience has found an association with various adverse outcomes such as the inability to cope with challenges, mental ill health and adverse life outcomes (Stewart & Yuen, 2011). In the mental health field, resilience has also been negatively associated with depression and anxiety (Hardy et al., 2004).

This third domain of resilience research has had a significant impact on the literature in organisational psychology (Lamp, 2014). The conceptualisation of resilience and the underlying constructs defined by researchers such as Wagnild (2009), Rutter (2012) and Keyes (2004) have strongly influenced the definition of resilience and the articulation of the dimensions of resilience in the present research.

4.3.4 Domain 4: Resilience research in an organisational context

The fourth domain of resilience research is the newest and has emerged within the organisational setting. This domain commenced with a focus on the capacity of individuals to cope with business challenges and change. More recently, this area of research has evolved to look at how resilience may influence the enhancement of capacity and capability in business activities and effective leadership (Wagnild & Collins, 2009; Wagnild & Young, 1993).

Resilience research in the organisational setting shows that individuals with high levels of personal resilience respond more positively to challenges in work and corporate settings and produce enhanced outcomes for both individuals and organisations (Fugate, Kinicki & Prussia, 2008; Kerber & Buono, 2009; Lawrence & Callan, 2011; Tvedt & Saksvik, 2012). Seligman (2011), for example, showed that optimism (a construct closely aligned to resilience) has a positive impact on general success at work.

There has been a fairly consistent body of research linking personal resilience to an individual’s ability to cope with organisational change and disruption and create meaning in the
context of change (Van den Heuvel et al., 2009; Wanberg & Banas, 2000). Individuals with low levels of resilience and a lack of internal locus of control have been shown to be more likely to withdraw and display a level of distress in the context of organisational change (Fugate et al., 2008). Research aimed at creating sustainable organisational change has repeatedly found that an individual’s ability to enhance his or her resilience by changing his or her mindset and finding the right level of social support is key to enhanced organisational outcomes (Lawrence & Callan, 2011; Van den Heuvel et al., 2009). Furthermore, one of the key elements in achieving change readiness within organisations is developing individuals’ personal capacity (resilience) and adjusting their mindset (Kerber & Buono, 2009).

Resilience has been shown to positively correlate with the ability to develop capacity in work settings that results in a greater number of personal growth opportunities, higher levels of relational effectiveness and enhanced social connections (Cowdrey & Walters, 2013; Reivich et al., 2013; Seligman, 2011). For example, Markus and Wurf (1987) showed that enhanced resilience resulted in positive behavioural responses to others in the work context.

From a leadership perspective, the resilience of the leader has been positively associated with his or her ability to deliver positive organisational outcomes in situations of change (Tvedt & Saksvik, 2012). Research has also shown that resilience of leaders results in enhanced outcomes and greater relational capacity (Kobasa, 1979; Wagnild & Young, 1993). There is an emerging area of organisational research focused on examining dispositional attributes, including resilience, which influence a leader’s ability to utilise an effective style of leadership in the corporate context (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). This new organisational research has informed some of the thinking incorporated in Studies 1 and 2 and will be discussed in Chapter 6.

4.4 Resilience and Related Constructs: Hardiness and Optimism

Resilience research is conceptually related to two other areas of research in the positive psychology domain: hardiness and optimism (Kobasa, 1979; Landy & Conte, 2016; Seligman, 1998). Both of these constructs have attracted significant levels of research interest over the past 30
years (Tedeschi & Calhoun, 1995; Seligman, 1998). Britt, Shen, Sinclair, Grossman and Klieger (2016) differentiate between the capacity for resilience and the demonstration of resilience noting that it is essential that researchers define which aspect is their point of focus. They also note that some researchers treat resilience as a single construct reflecting the ability to bounce back as well as maintain health and well-being, other researchers treat resilience as a trait combining resilience and optimism (Britt, Shen, Sinclair, Grossman & Klieger, 2016). Hardiness is generally treated more as a trait. Hardiness is described as a combination of coping strategies, attitudes and beliefs that assist individuals in coping positively with life stressors. People with a hardy personality—which includes the traits of challenge, control and commitment—are more likely to have coping strategies that assist them in overcoming challenges and stress (Kobasa, 1979). Optimism is described as an attribution style that allows individuals to perceive positive events as permanent and personal while assessing negative events as short-term and external (Seligman, 1990). The optimist tends to see the positive aspects of any situation and therefore finds it easier to seek solutions to challenging situations (Carver & Scheier, 1998). Research describes optimism within the frame of a malleable dispositional attribute and there is evidence that it has the capacity to develop and change over time (Luthans, Avolio, Walumbwa & Li, 2005; Seligman, 1998).

Resilience, hardiness and optimism are often used interchangeably in the research context, and the diagnostics developed for the individual constructs are used interchangeably in the measurement arena. Seligman (1998) went so far as to define optimism as a required capability of a resilient person. There is also some evidence that hardiness may be an attribute similar to resilience (Kobasa, 1979; Rush, Schoel & Barnard, 1995; Solcova & Tomanek, 1994). The theoretical foundations for hardiness and optimism are described in the present research as underlying dimensions of resilience and are therefore conceptually incorporated in the proposed model of resilience. Hardiness is conceptually linked to the structural element of self-concept well-being, the first dimension within the present research. Optimism is defined as a component of constructive
thinking, the third dimension of resilience in the studies reported in this thesis. The dimensions of resilience are more fully described in Chapter 5.

4.4.1 Research on Hardiness

Initial research into the trait of hardiness was conducted by Kobasa (1979), and since then there has been continued research on this construct. Studies have included looking at ways to develop hardiness and enhance individuals’ ability to cope (Bossick, 2008; Kobasa & Puccetti, 1983). Maddi (2011) described a personality of hardiness that is developed through learned attitudes and skills. It ensures resilience of the individual and enhances performance, health and well-being. Research into hardiness describes it as both a personality characteristic and a learned set of attitudes and skills (Bossick, 2008; Maddi, 2011). Although attitudes and skills may adapt and change, personality has been conceptualised as being reliable over time and resistant to change (Landy & Conte, 2016). Eschleman, Bowling and Alacron (2010) meta-analysis provides empirical support for relations of hardiness with outcomes similar to those related to resilience. They found that hardiness was positively related to protection from stress, active coping and performance as well as being negatively associated with personality traits that exacerbate stress and strain.

Research in this area indicates that the outcome of a hardy personality is resilience, creating a strong link to Studies 1 and 2 (Kobasa, 1979; Maddi, 2011). Kobasa (1979) and Maddi (2011) showed that hardiness is positively associated with similar positive outcomes to those described in the resilience research, including well-being and satisfaction in life. Similarly, the hardiness construct has been empirically linked to the ability to cope with stress and stressful life situations, enhanced levels of satisfaction, improved levels of self-confidence and the increased ability to deal with challenges (Rush et al., 1995; Solcova & Tomanek, 1994). In the organisational context, hardiness has been shown to have a moderating impact on severe corporate disruption, to increase executives’ capacity to cope with stress and to enable a greater commitment to tasks (D’Arienzo, 2010; Folkman, 1984; Kobasa, 1979). More specifically, Maddi (2011) showed that hardiness is associated with increased levels of resilience.
4.4.2 Research on Optimism

Seligman (1998) conducted extensive research into the constructs of optimism and its antithesis, helplessness. Research indicates that optimism is associated with enhanced well-being, while helplessness results in maladaptation and ill health (Reivich et al., 2013; Seligman, 1990). Research has shown that enhanced levels of optimism prevent depression in youth, assist in the development of natural defences against the impact of stress and aid in the recovery from trauma (Di Sipio, Falco & De Carlo, 2012; Hand, 2004; Reivich et al., 2013). In the organisational context, optimism has been shown to increase work performance, job satisfaction and organisational commitment (Luthans et al., 2005; Youssef & Luthans, 2007). However, it has been suggested that optimism may lead to overestimations of capability and result in a failure to take the necessary precautions a situation may require (Maddi & Hightower, 1999). Epstein’s (2014) work on constructive thinking outlined a distinction between realistic optimism and unrealistic optimism. The use of constructive thinking as a dimension of resilience therefore includes the realistic aspects of optimism.

4.5 Defining a Model of Leader Resilience

It is important that we not only describe and define the higher-order construct of resilience but review the lower-order constructs to identify the dimensions of resilience that will form the model of resilience in an organisational context (Brockner, 1988, Taylor, Kemeny, Bower, Gruenewald & Reed, 2000). Due to the multidisciplinary nature of the research and the differing conceptualisations of resilience, there were some complexities in defining a model. It was particularly challenging within the organisational and leadership context, as there is limited research and the models used have generally been drawn from other disciplines (Garbowski, 2010). The following section will outline some of the complexity and challenges involved in the multidisciplinary aspects of resilience research. It will also provide a conceptual understanding of the model of leader resilience that has evolved out of this complexity.
4.5.1 Key Challenges in Defining a Model of Leader Resilience

The three critical challenges within the organisational context are 1) there are a limited number of papers focusing on resilience and leadership; 2) most studies have treated resilience as a global factor; and 3) where dimensions are used, they are based on clinical measures of resilience (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). Therefore, in defining a model of resilience, the studies reported in this thesis have drawn from research and models outside of the organisational context while ensuring that alignment with the full-range leadership model is maintained (Bass, 1985; Garmezy, 1991; Keyes, 2007; Rutter, 1999).

The inconsistency in conceptualising and defining the dimensions in this multidisciplinary arena has resulted in a lack of a consistent treatment of the construct (Davydov, Stewart, Ritchie & Chaudieu, 2010). This has hampered researchers’ ability to conduct meaningful meta-analyses (Lamp, 2014; Lee et al., 2013). The multidisciplinary nature of resilience research does, however, have an advantage in that there is a wide range of papers focusing on the topic from a variety of perspectives (Lamp, 2014).

4.5.2 Differing Approaches: Higher-Order Construct and Dimensions

There has been a difference in the approaches taken concerning research in the resilience arena, with some approaches focusing on the dimensions of a higher-order construct, others on determinants and yet others looking at a combination of the two (Rutter, 1985). However, the majority of studies in the organisational context have tended to focus on the higher-order construct; a limited number of researchers have attempted to assess the underlying dimensions of resilience (Garbowski, 2010; King and Rothstein 2010; Offutt, 2011; McLarnon and Rothstein 2013). Furthermore, there has been a limited number of articulations of dimensions of resilience within the organisational context (Garbowski, 2010; King and Rothstein 2010; Offutt, 2011; McLarnon and Rothstein 2013; Sylvester, 2009; Wasden, 2014). King and Rothstein (2010) define a model of resilience in an organisational context. However, they do not articulate a model of internal
leadership focused on the capacity of the individual. Other authors have made use of clinical dimensions in the process of assessing resilience in an organisational context (Garbowski, 2010).

There is, however, a body of research in the broader field of malleable dispositional attributes that has utilised underlying dimensions to enhance the understanding and measurement of higher-order constructs (Judge, 2009; Judge et al., 2002). For example, Judge, Locke, Durham and Kluger (1998) utilised the underlying dimensions self-esteem, locus of control, generalised self-efficacy and neuroticism to better understand the higher-order construct core evaluations. This research indicated that defining the dimensions enhances the understanding of the higher-order construct and provides greater depth to the research (Judge et al., 2002). Studies 1 and 2 in this thesis sought to further the understanding of resilience in an organisational context by investigating both the higher-order construct of resilience and defining the underlying dimensions.

As the resilience research has evolved, there has been a move towards defining resilience as a dynamic process that has resulted in a broadening of the focus of investigations to include dimensions that underpin resilience (Rutter, 1999). Rutter’s (2012) conceptualisation of resilience as a process prompted researchers to focus on the impact of the underlying dimensions on resilience. Keyes (2007) further evolved the conceptualisation of resilience and emphasised the key dimensions that play a part in the process. The multidisciplinary aspect of the resilience research has resulted in differing perspectives on the dimensions of resilience (Lamp, 2014). Furthermore, the research populations and their specific contexts have influenced the definition of the dimensions of resilience.

4.5.3 Key Dimensions of Resilience Defined in the Multidisciplinary Research

There are a range of dimensions in the multidisciplinary research. Some of the key ones are discussed below, along with their conceptual association with the transformational leadership model (Bass, 1985).

4.5.3.1 Family and Societal Support

The early research on resilience, which focused on children and families, defined a key dimension of resilience as family and social support (Garmezy, 1974; Werner, 1982). For example,
Garmezy (1991) defined the dimensions of a nurturing family and societal support as key in enhancing the resilience of the individual.

In the organisational context, although family and social support remain factors in an individual’s ability to bounce back, in the present research it is not considered to be a factor in a leader’s intra-personal ability to bounce back and maintain resilience. Support and relational aspects are conceptualised as part of the inter-personal aspect of leadership in the transformational model (Bass, 1985). In the present study social support is conceptualised as being separate from the internal capacity of the individual and their leader resilience (Bass, 1985; Bass et al., 2003; Howell & Avolio, 1993). Within the transformational leadership framework, leader resilience is incorporated in the intra-personal aspect of leadership. Social support while still essential for a leader’s capacity to bounce back is not an aspect of their personal capacity. This aspect of resilience in the broader context is, therefore, not included as a dimension of leader resilience (Bass & Avolio, 1997). The present research does not investigate the inter-personal aspects involved in transformational leadership. There has been extensive research on the inter-personal aspects of leadership and the implication for leadership capability. It is acknowledged that while these factors remain relevant to leadership and resilience, they are outside of the scope of the present research (Avolio & Hannah, 2008; Avolio, Sosik & Berson, 2013; Bass, Avolio, Jung & Berson, 2003; King and Rothstein 2010).

Studies 1 and 2 acknowledge the findings of the early resilience research and the crucial role that a nurturing family, social support and strong inter-personal relations play in resilience. However, in aligning the constructs to transformational leadership, they are not defined as a dimension of leader resilience. Meta-studies looking at the factors that determine an individual’s ability to bounce back and maintain well-being have defined some dominant outcomes in their correlational studies. Lee et al. (2013) reviewed 33 studies and Lamp (2014) reviewed 127 studies and the factors that were found to have the higher level of influence on personal resilience included self-efficacy, self-esteem, positive affect, optimism, locus of control and social support (Lamp, 2014; Lee et al., 2013). The meta-analyses also indicate that optimism is an essential construct
closely associated with resilience—indeed, the two terms are often used interchangeably (Lee et al., 2013; Seligman, 2011). There are also relatively close research associations between internal locus of control and resilience and optimism (Gruber-Baldini et al., 2009).

### 4.5.3.2 Cognitive Processing

Many studies on resilience have highlighted the importance of healthy cognitive processing (Epstein, 1998; Rutter, 1999). Rutter (2012) described a list of dimensions of resilience that are cognitive, including evaluations, planning, self-control, self-agency, self-confidence and determination. Epstein’s (2014) constructive thinking model also articulated cognitive aspects as dimensions of health and well-being and aligned closely with Rutter’s (2012) cognitive assessment. Epstein (2014) defined two minds—a rational mind and an experiential mind. In his view, these two minds jointly deliver our experience of the world around us and precipitate our reactions and actions. Epstein’s (2014) constructive thinking research identified the existence of six cognitive processes that either support or damage health and well-being: emotional coping, behavioural coping, categorical thinking, superstitious thinking, naive optimism and negative thinking. Constructive thinking is positively associated with Rutter’s (2012) cognitive assessment and is defined as a dimension of resilience in Studies 1 and 2 (Epstein, 2014). The constructive thinking model and diagnostic, used in the studies reported in this thesis, measure cognitive assessment as a dimension in leader resilience.

### 4.5.3.3 Self-concept Well-being and Locus of Control

The literature on well-being has shown strong correlations with positive outcomes and resilience (Keyes, 2002). Keyes’s (2007) model of resilience incorporated all aspects of well-being in a continuum, from languishing to flourishing. This model defined three underlying factors or dimensions of resilience: emotional well-being (satisfaction and happiness with life), psychological well-being (the extent to which people are thriving in their personal lives, self-acceptance and a sense of purpose) and social well-being (an individual’s ability to build and maintain relationships and give and receive support from others).
There have also been arguments on the importance of well-being and locus of control as dimensions of resilience (Seligman, 2011; Wagnild, 2009). Seligman (2011), for example, defined some of the dimensions of resilience as: positive emotions, meaning and a sense of accomplishment. Ryff (1989) defined resilience as being determined by a combination of factors, including self-acceptance, autonomy, environmental mastery, purpose in life and personal growth. Wagnild’s (2009) description of the dimensions of resilience included purpose, perseverance, equanimity, self-reliance and existential aloneness. Jayawickreme, Forgeard and Seligman (2012) noted that the research indicates three important internal capacities of an individual to maintain resilience: positive affect, cognitive evaluations and self-control. This requirement to maintain the well-being of the self is defined as a dimension of resilience in the present research. Research on self-control has links to cognitive processing; however, the focus of this research is on the struggle with impulses and the ability to self-regulate (Hofmann & Van Dillen, 2012). The present research focuses on cognitive processing and locus of control which provide insights into the ability to bounce back from adversity.

4.5.3.4 Meta-studies Defining Key Dimensions

There are a limited number of meta-studies on the topic of resilience, but all attest to the challenges of the multidisciplinary nature of the research and the use of differing conceptualisations and frames of references (Lamp, 2014). Meta-studies looking at the factors that determine an individual’s ability to bounce back and maintain well-being have defined some dominant outcomes in their correlational studies. Lee et al. (2013) reviewed 33 studies and Lamp (2014) reviewed social support, self-efficacy, self-esteem, spirituality, and optimism. The factors that they found to have greater level of influence on personal resilience included self-efficacy, self-esteem, positive affect, optimism, locus of control and social support (Lamp, 2014; Lee et al., 2013). The meta-analyses also indicate that optimism is an essential construct closely associated with resilience—indeed, the two terms are often used interchangeably (Lee et al., 2013; Seligman, 2011). There are also relatively
close research associations between internal locus of control and resilience and optimism (Gruber-Baldini et al., 2009).

To establish the dimensions for Studies 1 and 2, a review was undertaken of the key researchers investigating resilience and the dimensions of resilience and the outcomes of Lamp’s (2014) meta-analysis. Dimensions of resilience identified from this review are shown in Table 4.1.

### Table 4.1

<table>
<thead>
<tr>
<th>Study</th>
<th>Dimensions/Determinants/Causal antecedents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rutter (1999)</td>
<td>Planning, self-control, self-agency, self-confidence and determination</td>
</tr>
<tr>
<td>Epstein (2014)</td>
<td>Emotional coping, behavioural coping, categorical thinking, superstitious thinking, naive optimism and negative thinking</td>
</tr>
<tr>
<td>Ryff (1989)</td>
<td>Self-acceptance, autonomy, environmental mastery, purpose in life and personal growth</td>
</tr>
<tr>
<td>Ruff &amp; Singer (2003, 2006)</td>
<td>Self-acceptance, purpose in life, environmental mastery, positive relationships, personal growth autonomy. Additionally they add life challenge, flexible self-concepts, and problem-focused coping as the elements of resilience</td>
</tr>
<tr>
<td>Wagnild (2009)</td>
<td>Purpose, perseverance, equanimity, self-reliance and existential aloneness</td>
</tr>
<tr>
<td>Seligman (2011)</td>
<td>Positive affect, cognitive evaluations and self-control</td>
</tr>
<tr>
<td>Lamp (2014)</td>
<td>Self-efficacy, self-esteem, positive affect, optimism and social support (meta-analysis)</td>
</tr>
</tbody>
</table>

Rutter (1999) defines resilience as a process with the element of that process. Epstein (2014) focuses on the dimensions of constructive thinking that enable an individual to function effectively.
in the cognitive arena. Ryff (1989, 2014) defines dimensions of psychological well-being articulated in a model of well-being. Ruff and Singer (2003) also assessed resilience more directly and identified the importance of the link between flourishing (well-being) and resilience (ability to overcome adversity) highlighting the strong links between these constructs and the need to bring these areas of research together to enhance understanding. Wagnild (2009) defines the characteristics of resilience, while Seligman (2011) defines the factors that enhance resilience.

The present research focuses on the internal capacity of the leader and does not include interpersonal aspects of resilience such as social support. The common threads that run through the dominant conceptualisations of resilience fall into three categories, as outlined below:

1. Self-concept Well-being—the constructs of personal clarity, self-acceptance, self-efficacy, self-esteem, purpose, perseverance, equanimity and self-reliance. (Campbell, 1990; Ryff, 1989). This construct incorporates the essence of each of these individual constructs in its description.

2. Locus of Control—perception of control of the environment (Rotter, 1966). This is a well-researched construct that incorporates the crucial psychological aspects of individual control. In Rotter (1966) conceptualisation locus of control is defined as the degree to which people believe that they have control over the outcome of events, as opposed to being controlled by external forces that they have no influence over.

3. Constructive Thinking—healthy cognition and mental processing resulting in optimism and positive affect are integrated into the present research through Epstein’s (1998) definition of constructive thinking. This construct includes both cognition and mental and emotional processing.

**4.6 Proposed Conceptual Model of Leader Resilience**

The model of leader resilience proposed in Studies 1 and 2 has been developed through multidisciplinary research into a range of conceptualisations of resilience and integration of this research. This model of leader resilience defines leader resilience as a malleable dispositional
attribute that forms the intra-personal capacity of the leader. The proposed model aligns with the common threads that have been identified in the multidisciplinary research outlined in the previous sections and outlined in Figure 4.1.

**Figure 4.1.** A model of leader resilience.

Leader resilience is defined as having three determining factors: self-concept well-being, internal locus of control and constructive thinking. These dimensions are interrelated and work together to enhance a leader’s ability to cope with the challenges that arise. They also support a leader to maintain well-being and flourish through challenge and adversity:

- Self-concept well-being—leaders who have a clear and stable sense of self with healthy psychological functioning and adjustment are able to maintain their emotional stability and well-being in any context (Campbell, 1990; Ryff, 1989). The present research makes use of Campbell’s (1990) operationalised definition of self-concept and combines this with Ryff’s (1989) definition of psychological well-being. Use is made of Ryff’s (1989) measure of well-being which incorporates the aspects of the self-concept identified by Campbell (1990) as well as psychological well-being defined by Ryff (1989). There are presently a limited number of measures that have been developed to assess this in the organisational domain, and therefore well-researched measures from the clinical domain have been utilised. The choice to use existing clinical measures does pose limitations on
the research and offers the opportunity for the development of specific measures to be
developed in the future.

- Internal locus of control—leaders with the capacity to assess that their decisions, actions
and outcomes are within their control, and that their choices and actions have an impact
on their results and experience, maintain their ability to bounce back in any context
(Rotter, 1966). Locus of control was separated as a specific aspect of leader resilience
due to the necessity for leaders to take responsibility for their actions. Leaders who
become victims of their circumstances are unable to take action, thereby undermining
their capacity to lead. Locus of control is distinct from but connected to the individual’s
self-concept well-being and their ability to think constructively (Abouserie, 1994).

- Constructive thinking—leaders who have the ability to assess external and internal
stimuli constructively and utilise clear, well-reasoned and balanced judgements in their
decision-making are able to maintain their mental and emotional stability and, thus,
enhance their resilience (Epstein, 2014). The cognitive capacity of the leader is an
essential aspect of leadership both the intelligence and the ability to manage thinking.
Constructive thinking has been included as a dimension of resilience as leaders must
control their thinking to maintain a constructive perspective on the working environment.
Leaders who are unable to manage their thinking will limit their resilience and their
capacity to lead (Epstein, 2014).

### 4.6.1 Research Linking the Dimensions of Resilience

Although the constructs of self-concept well-being, locus of control and constructive
thinking have generally been studied as separate constructs, there is evidence in some research of a
relationship between these constructs (Abouserie, 1994; Anazonwu, 1995; Brockner, 1988).
Research also indicates that together they are likely to offer greater depth of understanding on the
topic of leader resilience in an organisational setting (Judge et al., 2002). Brockner’s (1988)
examples of the relationship between these constructs in his theory of behavioural plasticity indicate
that an unstable self-concept results in an individual being more susceptible to unhealthy cognitive processing strategies. Anazonwu (1995) linked self-concept and locus of control by incorporating both elements in researching the enhancement of performance in an academic environment. Abouserie (1994) also found a correlation between having an unstable self-concept and an external locus of control, showing that together these resulted in higher levels of stress. Judge et al. (2002) demonstrated a strong empirical relationship between the measures of locus of control and self-esteem.

Campbell (1990) argued that self-esteem and self-concept are closely related constructs, and that an individual with low self-esteem and an unstable self-concept is more likely to process external cues unfavourably. Taylor et al. (2000) also concluded that the self-concept, sense of control and optimism of individuals together moderated the impact of stressful life events. Hand (2004) reported similar findings, showing that optimism, hope and control were significantly correlated and were factors in enhancing the resilience of the individual in stressful situations. In their meta-analysis, Judge et al. (2002) concluded that the constructs of self-esteem, generalised self-efficacy and locus of control were strongly correlated.

Research on identity indicates that this is a vital aspect of the self-concept that shapes perceptions, attitudes and behaviour of both self and others. Thus, the development of identity has implications for the understanding of both the internal processing of the leader and the external impact of the leader on others (Van Knippenberg, D., & Hogg, 2004). Our identity development as part of our self-concept development affects how we feel, think and behave, thus supporting the leader to react to the behaviours of others appropriately or inappropriately (Day & Antonakis, 2012). Research indicates that identity is dynamic and as has a situational aspect that allows us to compare our view of ourselves with others view of self. This comparison has important motivational and resilience implications and is defined as a moderator of effectiveness for both leader and follower (Van Knippenberg & Hogg, 2003).
The dimensions of leaders’ resilience defined in the proposed model are all conceptually associated with each other, and their inclusion as dimensions adds to the depth of the discussions on resilience (Judge et al., 2002). These links offer the opportunity for further debate on the dimensions of leader resilience (Anazonwu, 1995; Brockner, 1988; Judge et al.). The next chapter will include a more in-depth analysis of the research on each of the dimensions of leader resilience to more comprehensively describe the evolution of these constructs and their implications for resilience and leadership research.
Chapter 5: Research on the Three Dimensions of Resilience

The previous chapter discussed resilience research along with the proposed model of leader resilience. This chapter outlines the research associated with each of the dimensions of resilience, defining their evolution and relevant associated research. It also discusses the overlap of the dimensions and the implications of this in organisational psychology (Nowak & Vallacher, 1998).

5.1 Self-concept Well-being

Self-esteem and self-concept are frequently seen as interchangeable constructs in the research arena, with diagnostics measuring one construct being used in research to validate the other (Lachowicz-Tabaczek & Śniecińska, 2011). The conceptual links between these constructs necessitates a review of both to more fully understand the research decision to focus on self-concept well-being and not on self-esteem (Heine, Lehman, Markus & Kitayama, 1999, Korman, 1970). The next section reviews these two constructs individually and discusses the overlap between them, the global and specific measures of both constructs, relevant organisational research and the implications for leader resilience.

5.1.1 Research on Self-concept Well-being and Self-esteem

Self-concept and self-esteem both have a long research history in psychology and there is a significant body of research associated with each construct (Campbell, 1990; Markus & Wurf, 1987; Sowislo & Orth, 2013). One of the reasons for the ongoing interest in these constructs is that they have consistently been shown to have a positive impact on people’s behaviours in a range of contexts (Pierce, Gardner, Cummings & Dunham, 1989; Robinson, Shaver & Wrightsman, 1991; Wylie, 1979).

As the degree of external stimulation experienced by individuals in everyday life is far greater than their ability to absorb, process and respond, there is a need to understand the internal coping strategies that maintain well-being (Bandura, 1997; Blascovich & Tomaka, 1991; Markus, 1977). To cope, individuals develop a range of self-knowledge and self-belief strategies that they
construct on an ongoing basis in their internal system, described as either self-concept or self-esteem (Seligman et al., 1988; Cantor, Markus, Niedenthal & Nurius, 1986). When this internal processing system is working well, it allows individuals to function effectively within a range of contexts and respond to their external world and maintain well-being (Markus & Wurf, 1987; Tharenou, 1979; Wells & Marwell, 1976).

Much of the early research and theorising on self-esteem and self-concept originated in the field of clinical psychology, and many of the global measures of self-esteem evolved out of research on individual differences in this context (Coopersmith, 1967; Rosenberg, 1965). In one of the earliest studies, James (1890) defined self-esteem as a sense of success in our important life domains. Later researchers looked more at the social influence on self-esteem (Cooley, 1902; Goffman, 1959). Self-concept is described as a combination of self-belief and the evaluation of this belief along with a structure that supports this (Campbell, Assanand & Di Paula, 2003).

Rosenberg (1965, 1989), the originator of one of the most validated measures of self-esteem, the Self-Esteem Scale, described self-esteem as being related to feelings of personal worth. Recent conceptualisations of self-esteem have supported Rosenberg’s (1989) definition, and some researchers have separated it from other aspects of the self-concept to define self-esteem as an affective, evaluative element of the self-concept (Campbell, 1990; Leary & Baumeister, 2000). These affective evaluations are described in the literature as being subjective and not based on actual experiences (Robins, Hendin & Trzesniewski, 2001). In Campbell’s (1990) definition of self-concept, self-esteem is defined as a part of the evaluative aspect of the self. Researchers have shown fairly consistently that self-esteem is influenced by aspects of the self-concept (Baumgardner, 1990). For example, Campbell (1990) showed in four research studies that people with low levels of clarity and certainty in their self-concept have lower levels of self-esteem.

Research has also shown that enhanced levels of self-concept and self-esteem have a positive impact on a range of factors, including well-being and psychological adjustment, achievement in academic domains, the ability to persist in the face of failure, improved coping skills and positive
affect (Cheng & Furnham, 2004; DeNeve & Cooper, 1998; Heatherton, Herman & Polivy, 1991; Musser & Browne, 1991). Depression, anxiety and low psychological functioning have also been shown to be negatively correlated with high self-esteem (Orth, Robins, Trzesniewski, Maes & Schmitt, 2009; Sowislo & Orth, 2013).

5.1.1.1 Global vs Specific Measures of Self-esteem and Self-concept

Research has differentiated between the idea of a global measure (Campbell, 1990; Rosenberg, 1989) and a narrower measure of self-concept and self-esteem (Bowling, Eschelman, Wang, Kirkendall & Alarcon, 2010; Liu, Kaplan & Risser, 1992). There is evidence that global self-esteem measures do not necessarily indicate competence or a lack of competence in specific domains. It has also been shown that specific measures are more successful in defining outcomes in individual contexts (Bowling et al., 2010; Marsh, Trautwein, Lüdtke, Köller & Baumert, 2005). For example, research measuring more focused self-concept domains such as academic self-concept and illness self-concept indicate an enhanced level of competence in specific fields (Jenkins, Demaray & Tennant, 2017; Rassart et al., 2015).

Global measures of self-esteem and self-concept have shown greater predictive ability for broad-based outcomes such as general well-being and psychological adjustment (Cheng & Furnham, 2004; Diener & Diener, 1995; Zeigler-Hill, 2010). In Studies 1 and 2, the focus is on a more generalised context and therefore aligns more closely with a global conceptualisation of self-concept well-being (Campbell, 1990).

5.1.2 Defining Self-concept Well-being

Self-concept has been described as a cognitive structure that organises and processes memories and abstractions about the self and assists in the development of a sense of self (Markus, 1977). A healthy self-concept facilitates an individual’s ability to maintain psychological and emotional well-being (Baumeister, 1998; Markus, 1977; Ryff, 1989). Research shows that self-concept well-being is positively associated with resilience and physical, mental and emotional well-
Campbell’s (1990) definition articulated two separate components of the self-concept, content and structure, which both aspects are included in the present research articulation of self-concept well-being. The content component of the self-concept includes a knowledge aspect (who am I?) and an evaluative aspect (how do I feel about myself?). The knowledge component entails beliefs about one’s attributes and the clarity of these, while the evaluative component is the evaluation of one’s attributes and beliefs. Ritchie, Sedikides, Wildschut, Arndt and Gidron (2011) found that the self-concept mediates the relationship between stress and well-being. This mediating effect is what is measured by Ryff’s (1989) psychological well-being measures. Both aspects of the self-concept defined by Campbell (1990) are assessed in the diagnostic. The content of the self-concept is covered in Ryff’s measures of self-acceptance, purpose in life and personal growth. The evaluative aspect is assessed by autonomy, environmental mastery and self-acceptance.

The knowledge and evaluative components of the self-concept are intricately connected and work together to produce healthy or unhealthy levels of well-being (Campbell et al., 2003). Baumgardner (1990) demonstrated that certainty in the knowledge component is associated with positive affect in the evaluative component. Both a clearly defined belief about one’s personal attributes (knowledge component) and a positive evaluation of those characteristics (evaluative component) will result in higher levels of psychological adjustment and overall well-being (Baumgardner, 1990; Campbell, 1990; Campbell et al., 2003). Campbell (1990) noted that people with low self-esteem are likely to have lower levels of knowledge about themselves. Healthy maintenance of the content of one’s self-concept allows an individual to maintain self-concept well-being in response to life changes and life events (Showers, Abramson & Hogan, 1998).

The second element of self-concept well-being is the structural component, described as the way in which the contents of the self are organised. The health of the structural aspect of the self-concept determines self-concept well-being in the context of moods, emotions and the ability to cope...
with stress and pressure. The structural elements define how the content aspects are organised and require a level of unity and clarity to ensure that self-concept well-being is maintained (Campbell et al., 2003). The changing nature of the self is associated with a distinction between the structural and content components. There are indications that the content element is more adaptable to change than the structural component (Campbell, 1990; Campbell et al., 1996; Setterlund & Niedenthal, 1993).

There is some debate and discussion about the issues of complexity or unity of the structural aspect of the self-concept. Linville (1985) hypothesised that a high degree of self-complexity buffers against the harmful effects of stress by ensuring that negative events occurring in one aspect of oneself do not adversely affect other areas. Some researchers have reiterated this stress-buffering effect of a complex self-concept structure (Dixon & Baumeister, 1991; Niedenthal, Setterlund & Wherry, 1992; Smith & Cohen, 1993).

Other theories of the self-concept posit that greater unity in the structure of the self-concept enhances psychological well-being (Lecky, 1945; Rogers, 1959). These theories posit that people who have a strong unity of self-concept also have integrated and coherent views of the self that allow for continuity across differing contexts (Block, 1961). Research on self-concept differentiation, self-concept clarity and self-discrepancies generally support the view that self-concept unity contributes to psychological well-being and resilience (Campbell et al., 1996; Donahue, Robins, Roberts & John, 1993). Furthermore, Campbell and Lavallee (1993) showed that self-concept complexity and confusion are related to low self-esteem. In their meta-analysis of self-concept differentiation, Bleidorn and Ködding (2013) found that there was a negative association between self-concept differentiation and positive indicators of adjustment and well-being. Therefore, it appears that there needs to be unity in one’s self-concept to maintain a coherent view of self and ensure well-being. Studies 1 and 2 conceptualise the self-concept as a unified structure that supports well-being and resilience.
5.1.3 Self-concept Well-being: Content and Structure

There is a substantial body of research linking self-concept and well-being, with more recent links being made to resilience (Diehl, Hastings & Stanton, 2001; Donahue et al., 1993). Within the present research, self-concept is defined as a dual-processing system with both a structural element and a content element that support the well-being of the individual (Campbell, 1990; Showers et al., 1998).

This differentiation between the content and the structure of the self-concept is important in our understanding of self-concept well-being. Showers et al. (1998) found that significant changes in the content of the self-concept more closely reflected well-being related to changes in life events. Conversely, variations in the structure of the self-concept reflected a coping strategy to counteract stressful events and moderated the adverse impact of external factors (Showers et al. 1998). In another study, Segal (1988) noted that negative self-beliefs in the content area of the self may vary with mood, but that underlying unhealthy structural elements of the self-concept may be more stable and represent a higher level of predisposition to a lack of well-being.

A coherent self-concept structure, along with affective content, have been shown to enhance self-regulation (the ability to maintain well-being), increase positive mental health and improve the ability to deal with a broad range of life stressors (Baumgardner, 1990; Baumeister, 1998; Showers et al., 1998). An incoherent unstable self-concept structure has been shown to be associated with lower levels of well-being, higher levels of anxiety and depression, reduced ability to respond to daily stress and increased negative affect (Baumeister, Tice & Hutton, 1989; Diehl et al., 2001; Diehl & Hay, 2010; Donahue et al., 1993). Researchers in this field have also shown that cognitive therapy designed to enhance self-concept can reduce people’s levels of depression and negative affect (Seligman et al., 1988).

Attachment theory has also been linked to self-concept content (Bowlby, 1969). People with different attachment styles are argued to have differing worldviews with implications for well-being (Bowlby, 1969). Attachment style plays a part in the content component of the self-concept in that
it has implications for self-perception accuracy (Dozier & Lee, 1995). Individuals with an insecure and unhealthy attachment style as part of the content of their self-concept are more likely have a distorted self-perception, resulting in negative outcomes (Bartholomew & Horowitz, 1990). More distorted and insecure styles of attachment developed in the context of a lack of social support have been shown to reduce self-concept well-being (Bartholomew & Horowitz, 1990; Roberts, Gotlib & Kassel, 1996). This links to Rutter’s (1999) description of the social factors that influence levels of resilience, such as healthy levels of affection from parents and siblings. Although social support has not been taken into account in the model of leader resilience, it still plays a part in the overall health of an individual and, in particular, the health of an individual’s self-concept, which impacts the ability to bounce back (Bartholomew & Horowitz, 1990).

5.1.4 Self-esteem and Self-concept: Malleable dispositional attribute vs Trait

As with each of the constructs discussed in this thesis, the self-concept is argued by some researchers to be a malleable dispositional attribute that is adaptable over time, while others argue that it is a stable trait that is not amenable to change (Markus & Kunda, 1986; Swann, 1990). Some researchers argue for the stability of the self-concept and its predictive power over long time periods, noting that it is likely to resist change and has trait-like qualities (Steele, 1988; Swann, 1990; Tesser, 1986). Others argue for a dynamic conceptualisation of the self-concept (Markus & Wurf, 1987). A group of researchers has argued that there are elements of stability in the broader self that sits alongside other aspects that are less resistant to change (Markus & Kunda, 1986; Schlenker & Weigold, 1989).

Researchers who view the self-concept as adaptive describe it as dynamic, allowing for the constantly changing elements of the individual’s life and the evolving contextual aspects (Markus & Wurf, 1987). In their review of the self-concept, Markus and Wurf (1987, p. 299) stated that ‘The unifying premise of the last decade’s research on the self is that the self-concept does not just reflect ongoing behaviour but instead mediates and regulates this behaviour’. In this definition, the self-concept is viewed as dynamic and active with the capacity for change. They define the dynamic self-
concept as an interpretive structure that houses a collection of self-representations that mediate between the intra-personal and inter-personal behaviours of the individual. This definition places the self-concept within the malleable dispositional attribute domain and aligns with this thesis’s definition of resilience as a malleable dispositional attribute (see Section 4.2). Research is inconsistent in defining the consistency of the self-concept, with some studies suggesting that the self-concept is trait-like while others argue that it is dynamic and adaptive. Studies 1 and 2 focus on the self-concept as a malleable dispositional attribute that is adaptive and has the capacity to change (Swann, 1990).

In contrast to the self-concept, self-esteem has been fairly consistently conceptualised as a stable trait that is predictive of future behaviour and consistent over a lifetime (Harter, 1998; Rosenberg, 1965). Although this assumption has been questioned by some researchers who emphasise the state-like nature of self-esteem, it has remained a fairly consistent view over time (Conley, 1984). In a meta-analysis, Trzesniewski, Donnellan and Robins (2003) found converging evidence that self-esteem shows a stable and consistent pattern of lower levels during childhood, increasing levels throughout adolescence and young adulthood, a stabilisation through adulthood, and a slight decline in later life and old age. Studies 1 and 2 focus on the adaptive and flexible aspects of the self; therefore, self-esteem is conceptualised as a trait and is not incorporated as a dimension of resilience. Self-concept well-being, which is adaptable and changeable, is incorporated as a dimension of leader resilience.

5.1.5 Self-concept Well-being: Organisational and Leadership Research

Research in the field of organisational psychology has produced mixed results in relation to self-esteem and self-concept (Brockner, 1988). Self-esteem research in particular has had challenges linking it to work behaviours and researchers in this area have acknowledged that it requires further exploration (Brockner, 1988; Judge & Bono, 2001; Marsh & Hocevar, 1983; Weiss & Adler, 1984). Self-concept has had less exposure in the organisational domain and there is an opportunity to extend research in this arena (Hoeve, Jansen & Roodbol, 2014). However, the research that has been carried
out has indicated that self-concept has a positive impact on job satisfaction, job performance and a stronger sense of task-based efficacy (Bandura, 1997; Judge & Bono, 2001; Tharenou, 1979). This is still a very new area of research and requires further focus to define the relationships more clearly.

Some of the aspects of self-concept well-being researched in an organisational setting that have relevance in the leadership debate are a stable self-concept, self-worth and self-efficacy. These have been shown to have a positive impact on outcomes and effectiveness in the leadership and organisational context (Coopersmith, 1967; Huebner, 2012; Markus & Wurf, 1987). The research on these topics in a business setting indicates a positive correlation with these aspects and a range of outcomes such as organisational citizenship behaviour, levels of job satisfaction and motivation (Hunt & Larsons, 1977; Mayfield & Mayfield, 2002).

In the organisational context, a leader’s ability to maintain the stability of their self-concept and manage their emotions and reactions has been shown to be important in defining their capacity to utilise a transformational style of leadership regardless of the organisational context (Bass, 1985; Hunt & Larsons, 1977). Ryff's (1995) model of well-being aligns very closely with this conceptualisation of the self-concept stability. In her more recent work, Ryff's (2014 p.14) defines the link the self-concept and resilience in the statement "the capacity of some to experience and sustain their well-being, perhaps even deepen it, despite the challenges that life presents to them." In a review of Ryff (1995) scale Van Dierendonck (2004) found four dimensions of psychological health subjective well-being, self-actualisation, interpersonal relations and autonomy. They also developed and tested two new scales that together were described as spiritual well-being (Van Dierendonck, 2004). The work of Ryff (1995) is essential in understanding self-concept well-being. However, like many other researchers in this arena Ryff (1995) included both intra- and inter- personal aspects in their descriptions of the dimensions. The focus of the present research is on the intra-personal aspect of resilience and well-being.
House (1971) showed that a high level of self-confidence arising from self-concept well-being is an essential characteristic of a charismatic leader. Bass (1998) also showed that self-confidence and self-concept well-being are requirements for the effective use of transformational leadership behaviours. There is also evidence that the knowledge and the evaluative component of the self-concept have an impact on leadership style (Bass, 1998; Hunt & Larsons, 1977). Shamir, House and Arthur (1993) took this further and utilised a self-concept-based theory to aid in the understanding of the impact of transformational leadership on the follower. They found that a transformational leader has a positive impact on his or her followers’ sense of self, enhancing motivation and commitment by assisting in the development of these subordinates’ self-concept.

Although there is still more research to be done in this area, the importance of the self-concept in the organisational arena is very clear when looking at the dimensions of leader resilience. Self-concept has therefore been incorporated in the proposed model of resilience along with the dimension’s locus of control and constructive thinking. Each of these is discussed in the following sections.

5.2 Locus of Control

Within the literature related to individual differences and closely associated with the discussions of self-concept well-being is the construct locus of control. Lefcourt (1992) noted that it is one of the most studied constructs in psychological research. The inclusion of a separate dimension of locus of control aligns with the findings from studies on core self-evaluations research (Judge et al., 2002). Research in this area has shown that the use of higher-order constructs along with measures of dimensions more fully explained the outcomes concerning individual differences. Judge et al., (2002) incorporate self-esteem, self-efficacy, neuroticism and locus of control in their definition of core evaluations. Epstein and Meier (1989) concur with this in noting that constructive thinking is a broad coping variable with specific components. They also note that attributional style and locus of control are essential aspects of the domain of constructive thinking in everyday life (Epstein & Meier, 1989). Defining locus of control as a
dimension is therefore essential in addressing the requirement to identify the underlying dimensions of the higher-order construct of resilience. Rotter's (1995) locus of control was used as there was a significant number of research papers that made use of Rotters (1995) scale in organisational research and it is one of the most highly used measures in the field (Kalantarkousheh et al., 2013; Organ & Greene, 1974).

The following sections present the definition of the construct of locus of control, an overview of the evolution of the construct, a review of the research and a discussion of the implications for the studies presented in this research.

5.2.1 Defining Locus of Control

Locus of control does not indicate an actual command of the environment; rather, it indicates a perception of control. Lefcourt (1991, p. 423) defined locus of control as "the assumed internal state that explains why certain people actively, resiliently and willingly try to deal with difficult circumstances, while others succumb to a range of negative emotions." Rotter (1990) described locus of control as the extent to which individuals assess that they have control of their reaction to things that affect them. His definition covered two differing responses, internal and external.

Internal locus of control refers to an individual’s perception that external reinforcement and outcomes are contingent on their behaviour and personal capacity. Individuals who have an internal locus of control believe that their actions have an impact on their life events. This belief allows the individual to take responsibility for their actions and change their responses to achieve enhanced results. This aligns with resilience research, as a key aspect of resilience is the belief that personal responses and actions have an impact on outcomes attained (Lachman & Firth, 2004).

Individuals with an external locus of control believe that they are at the mercy of the external world and do not perceive any benefit in changing their actions to enhance their circumstances. If an individual considers that they are at the mercy of the external world, they will become passive and will not attempt to take actions that will assist them in bouncing back (Rotter, 1975).
In the leadership space, transformational leaders are required to ensure that they take measures to enhance their inter-personal leadership (Bass, 1985). An internal locus of control and the choice to take responsibility for results is a prerequisite for leader resilience and effective inter-personal leadership (Lefcourt, 1976).

5.2.2 Evolution of the Construct Locus of Control

Research on locus of control dates back to the 1960s, when researchers showed that cognitive perceptions of personal control played a major role in adjustment and well-being (Liverant, 1960; Phares, 1965; Rotter, 1966). The reason for the continued interest in this topic is that it has been shown to have a significant impact on health, well-being and effectiveness in a variety of domains (Lillevoll, Kroger & Martinussen, 2013; Ng, Sorensen & Eby, 2006).

The three originators of the concept of locus of control, Shepherd Liverant (1960), Jerry Phares (1965) and Julian Rotter (1966), were clinical personality psychologists with a social learning focus. Their conceptualisation of the construct evolved out of social learning theory and involved the integration of stimulus-response theories and cognitive theories (Robinson et al., 1991). Liverant (1960), Phares (1965) and Rotter (1966) predicted that behaviour was a result of expectations and values that lead to an assessment of how much control an individual perceives themselves to have over their personal outcomes.

The early work of behaviourists gave indications of the impact of assessed control from the perspective of learned helplessness (Overmier & Seligman, 1967). They showed that animals placed in perceived helpless conditions demonstrated withdrawal behaviours and an acceptance of the condition which resulted in inaction (Maier & Seligman, 1976). This early behavioural research provided evidence of the impact of perceived control on outcomes and well-being (Overmier & Seligman, 1967). Maier and Seligman’s (1976) study on animals supports Rotter’s (1966) research into the assignment of causality. In Rotter’s (1966) research, it was shown that some people are unable to see the relationship between their actions and the consequences, while others are able to
positively identify the impact of their behaviours on the results they experienced, and this has implications for well-being (Phares, 1976).

Rotter (1966) coined the term ‘locus of control’, which he defined as the extent to which people vary in how they perceive their actions and the level of causality in the outcomes that are experienced; he also explained that it can either be internal or external. Individuals with an external locus believe that the outcomes they experience are largely out of their control and are a result of fate and/or chance. Those with an internal locus believe that their actions and behaviours have a direct impact on the external environment and the results they experience. Rotter (1975) also distinguished between generalised and specific loci of control. In specific situations, an individual’s locus of control may be different based on reinforcements from the past having affected the person’s expectancy in that particular setting.

5.2.3 Locus of Control: Malleable dispositional attribute or Trait

There is an ongoing debate as to whether locus of control is a stable trait consistent over time or a malleable dispositional attribute with the capacity to change over time (Bledsoe & Baber, 1978; Lefcourt, 1992). Bledsoe and Baber (1978) conceptualised locus of control as a stable underlying personality construct, arguing that it was a trait. Conversely, Lefcourt (1992) described locus of control as a malleable dispositional attribute noting that it can change and adapt to time and situations. Levenson (1974) supported this conceptualisation of locus of control as adaptable and changeable. More recent research indicates that locus of control is largely learned and can be enhanced with interventions designed to develop an individual’s internal locus of control (Lefcourt, 1992). Studies 1 and 2 align with this research and conceptualise locus of control as a malleable dispositional attribute with the capacity to change and develop over time.

5.2.4 Locus of Control Research

In the clinical arena, locus of control has been shown to have a range of positive outcomes for health and well-being (Bandura, 1997; Ong, Bergeman & Bisconti, 2005). Internal locus of control has been shown to be associated with better physical and mental health, enhanced
psychological well-being, lower levels of reactivity to daily life, coping with ageing and resilience (Bandura, 1997; Neupert, Almeida & Charles, 2007; Shamir et al., 1993). Internal locus of control has also been found to be predictive of social action, information seeking and the ability to cope with stress (Hahn, 2000; Kobasa, 1979; Lefcourt, 1992; Levenson, 1974).

A number of studies have shown a direct correlation between locus of control and resilience (Chorpita & Barlow, 1998; Hart, Hofmann, Edelstein & Keller, 1997). Internal locus of control correlates with high levels of long-term resilience and enhanced levels of confidence in taking action and coping with change (Glass & Singer, 1972; Gore & Rotter, 1963; Seeman, 1963). For example, Leontopoulou (2006) found that locus of control was a significant factor in effective coping strategies and the ability to remain resilient in challenging situations. Lefcourt and Davidson-Katz (1991) also found that an internal locus of control supports resilience in stressful situations and that it acts as a stress moderator. They concluded that an external locus of control could be used to predict the onset of illness for individuals under pressure.

Links between locus of control and other malleable dispositional attributes have also been established (Chorpita & Barlow, 1998). Research continues into the impact of locus of control on various characteristics and the resultant implications for health and well-being (Hart et al., 1997). Research in this field has linked locus of control to two constructs closely aligned with resilience, identity and optimism (Lefcourt, 1976; Seligman, 1998). Seligman (1998) showed that an internal locus of control is associated with an optimistic outlook that enhances an individual’s ability to bounce back. Related to Seligman’s (1998) findings research by Proudfoot, Corr, Guest and Dunn, (2009) showed that improving resilience in the work environment delivered improvement in a several areas such as satisfaction, well-being and productivity. It has also been demonstrated that an internal locus of control enhances an individual’s level of optimism, sense of identity, well-being and healthy psychological functioning (Lillevoll et al., 2013). Shapiro, Schwartz and Austin (1996) reviewed the field of locus of control and concluded that there was substantial evidence of the positive impact of an internal locus of control on optimism,
well-being and resilience. Related to Seligman’s (1998) findings research by Proudfoot, Corr, Guest and Dunn, (2009) showed that improving resilience in the work environment delivered improvement in several areas such as satisfaction, well-being and productivity. Consideration was given to Seligman’s (1998) model and the broader range of models in the arena of locus of control research however the decision was made to make use of Rotters (1995) measure of locus of control. This diagnostic has been widely researched and repeatedly used in organisational research (Kalantarkousheh, Araqi, Zamanipour & Fandokht, 2013; Organ & Greene, 1974).

5.2.5 Locus of Control and Organisational Research

Locus of control is one of the more broadly researched malleable dispositional attributes (Nufer, 2013). There is a new and growing body of research looking at locus of control and its impact on a range of organisational and leadership settings. Locus of control has been positively associated with health and well-being outcomes in a business setting (Bartholomew & Horowitz, 1990, Judge & Bono, 2001). Spector’s (1982) review found that an internal locus of control was correlated with higher levels of motivation, enhanced job performance and higher levels of success in organisations. However, he also found a weaker correlation with broader organisational domains such as labour turnover. Chen and Silverthorne (2008) also showed that an internal locus of control positively moderated levels of job stress while enhancing individuals’ experience at work, levels of job performance and motivation. Story and Barbuto (2011) showed significant positive relationships between locus of control, self-concept and levels of motivation in an organisational setting.

Judge and Bono’s (2001) meta-analysis of research on this topic showed that an internal locus of control was positively associated with work outcomes such as achievement of tasks, higher levels of motivation and enhanced social experiences at work. Ng et al.’s (2006) meta-analysis supported these findings and found that locus of control was positively related to success in work and social outcomes in the organisational setting. Flytzani and Nijkamp (2008) also found that an
internal locus of control was associated with the enhanced ability needed by expatriate managers to adjust to international assignments and the complexity involved in relocating to a different country.

Research has established a strong positive link between our assessments of control, leadership and the outcomes of leadership (Bass, 1985). Lefcourt (1976) reported a positive correlation between an internal locus of control and healthy outcomes of leadership. Collins’s (2001) popular book *Good to Great* described the results of a five-year study of over 1,400 companies. Collins (2001) observed that great organisations are led by individuals who display what is described as ‘level five leadership’. This leadership level incorporates an assessment of personal control as a key attribute.

Research has positively linked internal locus of control to leadership behaviours such as servant leadership, leadership goal setting, business performance and leadership effectiveness (Bartholomew & Horowitz, 1990; Howell & Avolio, 1993; Noble, 2001). Locus of control has been directly linked to leadership effectiveness and positive leadership outcomes (Noble, 2001). Internal locus of control has also been found to be an essential underlying requirement for leaders to maintain a transformational style (Bass & Riggio, 2006). Transformational leadership requires that individuals maintain their resilience and take responsibility for their actions and decisions (Bass, 1985; Lefcourt, 1976). Runyon (1973) found that individuals with an internal locus of control preferred to utilise a participative management style, while those with an external locus of control preferred a more directive style. Howell and Avolio (1993) reiterated this by showing that internal locus of control was positively related to a preference for a participative management style and increased levels of intellectual stimulation in followers. Bass (1998) confirmed that internal locus of control was associated with the ability of the individual to deliver and maintain transformational leadership behaviours. Howell and Avolio (1993) and Hunt and Larsons (1977) showed that internal locus of control was associated with the ability to display and maintain a transformational leadership style.
In an organisational context, there are strong links between internal locus of control and the use of healthy leadership styles and positive organisational outcomes (Howell & Avolio, 1993). This aligns with the present research, which identifies locus of control as a dimension of leader resilience.

### 5.3 Constructive Thinking

The third dimension of resilience in the proposed model is constructive thinking (Epstein, 2014). When focusing on resilience in the leadership context, there is an inherent long-term interest in cognitive processing and decision-making (Howell & Avolio, 1993). This processing is an essential component of a leader’s ability to effectively direct an individual, team or organisation towards success (Epstein, 2014).

The following sections outline the definition of constructive thinking, the evolution of the construct and related research. Constructive thinking is a new and evolving area of organisational psychology and has been significantly influenced by three key areas of research: intelligence (Binet & Simon, 1916; Galton, 1869), executive functioning (Baddeley, 1996) and emotional intelligence (EI) (Salovey & Mayer, 1990). Each of these is discussed below.

#### 5.3.1 Defining Constructive Thinking

The study of intelligence and the operation of the mind has for many years been a focus for research into individual differences, particularly mental processing and its links to decision-making (Binet & Simon, 1916; Galton, 1869). Early studies in this area focused on intelligence and the measurement of the intelligence quotient (IQ), and there is ongoing interest in how IQ influences leadership and organisational outcomes. This IQ research has produced mixed results, and it has become evident that IQ does not appear to offer a comprehensive understanding of the depth and complexity of the mental processing involved in leadership and successful outcomes in an organisational setting (Bergman, Corovic, Ferrer-Wreder & Modig, 2014). Constructive thinking has broadened the research focus to look not only at IQ and the ability of the brain to process information but the impact of unconscious and emotional processing, which may impede or enhance an individual’s ability to process information (Bertua, Anderson & Salgado, 2005; Epstein, 2014).
Healthy processing of emotions and unconscious reactions and biases have significant implications for leadership and a leader’s ability to maintain resilience (Epstein, 2014).

Constructive thinking is described as the capacity to interpret external stimuli, events or circumstances in a way that reduces reactivity and allows the individual to select responses that support inter-personal effectiveness and maintain personal resilience (Epstein, 2014). In outlining a definition of constructive thinking, Epstein (2014) described the operation of two separate minds, the rational and the experiential mind. The rational mind is the capacity to reason and solve abstract problems. The ability of this mind is in its potential to cognitively process data and develop sound thought processes. Unconscious and preconscious activity have limited direct impact on this mind. The rational mind makes sense of things such a language and mathematics and is considered the logical processing system. Measures of IQ are focused on assessing this aspect of the processing system (Bertua et al., 2005).

The experiential mind is considered a separate aspect of the mind significantly affected by unconscious and preconscious thoughts and connected to emotions and experience (Epstein, 2014). This processing is seen as more challenging to control, as much of the stimuli are unconscious and emotionally driven. When the experiential mind is processing destructive sequences, it can disrupt the activity of the rational mind, thereby destabilising the individual. The experiential mind makes sense of unconscious and preconscious thought and is closely linked to our emotions and reactions (Epstein, 2014).

In Epstein’s (1998) view, behaviour is influenced by the combined impact of the two minds. The experiential mind has a stronger impact on responses and actions related to well-being and psychological adjustment. Epstein (1998, p. 26) defined constructive thinking as ‘the degree to which a person’s automatic thinking—the thinking that occurs without deliberate intention—facilitates solving problems in everyday life at a minimum cost in stress’. Constructive thinking is the filter through which we interpret our world and make negative or positive interpretations of events and experiences. The ability to manage automatic thinking is fundamental to the maintenance
of resilience (Epstein, 2014). To process the environment and stimuli, individuals must construct explicit and implicit models of themselves and their experiences that form part of their dual cognitive processing system (Epstein, 2014). They then filter their daily experiences through this dual-processing system of the rational and the experiential mind and define their cognitions as either constructive or destructive. Healthy constructive thinking patterns require that the experiential mind effectively manages the impact of unconscious and preconscious thought to ensure that internal constructions are actively selected rather than unconsciously driven. Constructive thinking is defined as the process whereby the experiential mind aligns with positive interpretations, exposes interpretations that are not useful and influenced by unconscious and preconscious thought, and ensures a consistent review before any reaction or action is taken. The outcome of constructive thinking is the maintenance of constructive processing, which enables individuals to enhance their well-being and resilience (Epstein, 1998).

5.3.2 Evolution of Constructive Thinking

Effective leadership in today’s world requires that individuals be able to cognitively and emotionally process a vast range of internal and external stimuli and assess and review this to deliver balanced decisions and healthy responses (Draghici & Draghici, 2007). This processing is an essential aspect of leadership and is imperative for the development of healthy inter-personal relationships and the ability to utilise a transformational leadership style (Bass, 1985; Howell & Avolio, 1993). The very limited number of studies on constructive thinking invites further research and substantiation of the constructs and their measures (Epstein, 2014). While constructive thinking is a new area of study, Epstein’s (2014) model of constructive thinking has been the dominant conceptualisation utilised to describe the impact of cognitive processing on well-being (Evers, Tomic & Brouwers, 2004).

The development and validation of the constructive thinking research and its links to resilience and leadership have been drawn from a range of related areas of research within psychology (Epstein, 2014). There are three areas of research that have had a significant impact
prior to and in relation to the evolution of constructive thinking: 1) intelligence research, which predates constructive thinking research and has a long history in relation to our understanding of individual difference within the field of psychology (Galton, 1869); 2) executive function and modes of thinking within the area of neuropsychology and experimental psychology (Parkin & Java, 1999; Kahneman, 2011); and 3) emotional intelligence (EI) within the field of organisational psychology (Goleman, 1995; Salovey & Mayer, 1990).

IQ research and the measurement of IQ as a dimension of leadership and success in a work context has a long history in organisational psychology (Binet & Simon, 1916; Bergman et al., 2014; Bertua et al., 2005; Terman & Oden, 1947). The various measures of IQ were one of the very earliest areas of research investigating individual differences within the field of psychology (Binet & Simon, 1916; Galton, 1869). The investigation into IQ and its implications for success in a range of domains has remained a consistent area of interest in the search for an enhanced understanding of individual difference (Bergman et al., 2014; Binet & Simon, 1916; Galton, 1869). Research on IQ has demonstrated its importance in accounting for positive outcomes and enhanced levels of success in organisational and academic settings (Bertua et al., 2005; Terman & Oden, 1947). IQ is associated with success in life, achievement in the work context, academic achievement and leadership ability (Bertua et al., 2005; Chmiel et al., 2012).

There is no denying that IQ has a positive impact on success in various domains and, more specifically, in leadership effectiveness (Gottfredson, 1997; Terman & Oden, 1947). Research in the organisational context has shown that IQ is positively linked to the ability to deliver a transformational leadership style. For example, Nguyen (2002) showed the importance of individuals’ IQ in supporting leaders to effectively manage themselves and lead others. However, more recent evidence suggests that other factors are involved in success and attainment in the leadership domain (Bergman et al., 2014). For example, a longitudinal study by Bergman et al. (2014) showed that although high-IQ individuals are 10 times more likely to obtain a Master’s degree than those with an average IQ, there is still a proportion of high-IQ people who never achieve
even a graduate qualification. Epstein and Meier (1989, p. 332) also noted that the results of IQ in a work setting have been mixed, and ‘several studies have failed to find significant correlations between IQ and work performance’. In their meta-analysis, DeNeve and Cooper (1998) concluded that there are other factors aside from IQ that have an influence on positive outcomes in a work environment, with factors such as emotional stability, locus of control, hardiness and positive affectivity more likely to predict subjective well-being and success at work than IQ. These findings indicate that while IQ provides some insight into success in a work setting, it does not by itself offer a broad enough understanding of the processing that underpins differences in capability, particularly the capacity to lead others (DeNeve & Cooper, 1998). For example, de Haro, and Costa (2014) found that, after controlling for IQ as measured by general mental ability, EI is a more valid predictor of career and leadership success. These findings indicate that although IQ is an important factor in positive outcomes for individuals, there are other aspects of mental processing that play a part in individual achievement and success in an organisational setting.

Although constructive thinking is a new and evolving area of research, it offers an understanding of cognitive processing that includes the importance of IQ while exploring other aspects of mental processing that have implications for individual difference. This broader conceptualisation has a high level of relevance to our understanding of resilience and the impact on leadership in today’s world. Constructive thinking broadens the focus on mental processing to include the subjective interpretation of events and experiences that are not only cognitive but have implications for the maintenance of well-being and resilience (Epstein, 2014).

The second area of research that has links to constructive thinking research is the executive function and modes of thinking (Baddeley, 1996; Kahneman, 2011). Executive function has been studied for many years within the field of neuropsychology (Baddeley, 1996; Santos-Ruiz et al., 2012), with studies describing the operation of the brain on memory, processing and decision-making. This research provides a neurological understanding of the aspects of the brain that support
successful processing and enable leaders to constructively process their experiences to enhance outcomes (Baddeley, 1996).

Executive function has been described as consisting of an integrated set of neurological systems that play a part in memory, mental functioning, flexibility and accuracy of decision-making (Santos-Ruiz et al., 2012). Research on executive function shows that the operation of the mind is significantly impacted by conscious and unconscious processes and that this has a direct link to well-being and adaptive functioning (Baddeley, 1996). This conceptualisation of executive function is closely aligned with Epstein’s (1998) description of the dual-processing system of the rational and the experiential mind. From a leadership perspective, this has significant implications for a leaders’ ability to effectively manage the large volume of data that they are exposed to and the emotional impact of working with people (Epstein, 2014).

There are a variety of conceptualisations of executive function, with some researchers postulating that it is a single entity. Conversely, others argue that it is a dual-processing system responsible for the processing and organisation of emotions, thoughts, memories and decision-making and that this single entity results in the broad range of human reactions and behaviours (Parkin & Java, 1999; Santos-Ruiz et al., 2012). Baddeley and Hitch (1974) described a three-system approach that has some correlations with Epstein’s (2014) constructive thinking theory, comprising 1) temporary verbal subsystem—acoustic storage system—the phonological loop; 2) visual subsystem for storage and manipulation—the visuospatial sketchpad; and 3) central executive function (see Figure 5.1).

Central executive function is described as the connection point for cognition and processing of information. This connection highlights executive function as playing an essential part in the mental and emotional well-being of the individual. This is essential for leaders to function effectively.
This conceptualisation of executive function has some alignment with Epstein’s (1998) description of two minds and supports his theory of constructive thinking being an integration of the different aspects of mental processing. The developments within neuropsychology around executive function have links to constructive thinking research (Baddeley & Hitch, 1974; Epstein, 1998; Santos-Ruiz et al., 2012).

Kahneman’s (2011) definition of two processing systems is even more closely aligned with Epstein’s (1998) constructive thinking. The theory defines two systems of thinking: system 1, the intuitive thinking system, which is instinctive and emotional, and system 2, the deliberate, analytic system where reason dominates. System 1 has the capacity to impact the effectiveness of system 2 and undermine the logical processing. This aligns closely to Epstein’s (1998) two minds that together perform the function of mediating, integrating and processing.

These processing systems play an important part in the development and maintenance of resilience and well-being, with direct implications for the ability of leaders to deliver a consistent and positive style (Baddeley, 1996; Epstein, 2014). Cerni, Curtis and Colmar (2010, 2014) showed that there is a positive correlation between global constructive thinking and transformational leadership, and that development of constructive thinking in school leaders has a positive impact on transformational leadership.

EI is the third area of research that has played an important part in the evolution of conceptualisations of constructive thinking (Salovey & Mayer, 1990). EI is highly debated in popular literature and has generated an ongoing volume of research over the last two decades in the
field of organisational psychology (Goleman, 1995; Salovey & Mayer, 1990). Research on EI has broadened the discussion on individual difference by challenging more traditional thinking around what is required for success in a range of domains, including leadership (Syndell, 2008).

The concept of multiple intelligences commenced the debate and assisted in moving away from a conceptualisation of individual difference that focused almost exclusively on IQ (Hernández-Torrano, Ferrándiz, Ferrando, Prieto & Fernández, 2014). There have been a number of descriptions of other types of intelligence over the years, including visual spatial, musical, kinaesthetic, social, linguistic and emotional (Hernández-Torrano et al., 2014). Outside of IQ, however, EI has gained significant momentum in the organisational psychology domain (Salovey & Mayer, 1990). For the last 15 years, there has been a focus in organisational psychology research on the topic of EI and its implications for work and leadership success. Salovey and Mayer (1990), two of the earliest researchers in this area, described EI as the ability to monitor and manage feelings and emotions in oneself and others and to make use of this to define appropriate actions and reactions. Goleman (1995) popularised the construct of EI with his bestselling book *Emotional Intelligence*. Interest in EI in the work setting, and particularly in relation to leadership, has continued to grow (Goleman, 1995; Salovey & Mayer, 1990). However, there have been mixed results and some studies have been criticised for overstating the impact of EI (Perloff, 1997).

Research has shown that higher levels of EI result in enhanced levels of resilience and positive life outcomes (Maulding, Peters, Roberts, Leonard & Sparkman, 2012; Schneider, Lyons & Khazon, 2013). For example, Di Fabio and Saklofske (2014) have shown that higher levels of EI promote enhanced personal resources and are associated with higher levels of resilience. Research in this area has been extended into the leadership domain to show that EI enhances resilience and leads to higher levels of leadership capability (Maulding et al., 2012). Research has also found a positive correlation between higher levels of EI and the ability to deliver a transformational leadership style (Syndell, 2008). Specifically, Syndell (2008) found that transformational leaders require elevated levels of EI to deliver positive inter-personal leadership.
Constructive thinking research evolved during the challenges and public debate on EI research (Epstein, 2014). Constructive thinking appears to offer a broader perspective on this aspect of human difference by integrating aspects of both IQ and EQ in its conceptualisation (Epstein, 1998). Epstein (1998) defined EQ, which exists in the experiential mind, and IQ, which is conceptualised as part of the rational mind, as linked. There is an ongoing debate in the research as to whether the experiential mind or the rational mind comes first in the process of cognition. However, there is agreement that both minds have implications for effective human functioning and individual resilience (Evers et al., 2004; Goleman, 1995).

EI research defines emotional reactions as the experience of an automatic response in which the cortex is bypassed by the thalamus to send messages directly to the amygdala (Goleman, 1995). Therefore, EI, in this context, is the ability to develop an awareness of emotional reactions and manage these in an appropriate way. From the perspective of constructive thinking, the starting point of emotional responses is the cognitive processing of a stimulus that results in either a constructive or destructive sequence. This provokes either a positive or negative emotional reaction (Epstein, 2014). This view of emotional management asserts that if the cognitive processing is constructive, particularly initial automatic constructs, then there will be a healthy emotional response and no requirement to manage the emotion in the way suggested in EI research (Epstein, 2014; Goleman, 1995). Epstein (2014) showed that if we can actively process and manage our preconscious and unconscious thoughts, we have the capacity to define an incident as constructive before it affects the amygdala and provokes an emotional reaction. Constructive thinking is, therefore, the cognitive ability to healthily process external stimuli through the experiential mind to ensure maintenance of well-being (Epstein, 2014). This ability to process constructively results in elevated levels of resilience and the ability to bounce back from challenge and adversity (Epstein, 2014; Maulding et al., 2012). Constructive thinking research has significant implications for understanding leader resilience and the enhancement of leadership capability (Goleman, 1995; Santos-Ruiz et al., 2012).
5.3.3 Constructive Thinking: Malleable dispositional attribute or Trait

Self-concept well-being and locus of control have already been positioned conceptually as malleable dispositional attributes in the present research (in Sections 5.1.4 and 5.2.3 respectively) (Lefcourt, 1976; Markus & Wurf, 1987). The same debate exists in the research on constructive thinking. Therefore, it is important to review this issue and decide whether it falls within the trait or malleable dispositional attribute conceptualisation.

Rational thinking is defined in constructive thinking as an individual difference in the tendency to think logically, consciously and rationally, whereas IQ is the ability to do this kind of thinking well. Research on IQ has shown that this ability of the mind is consistent over time (Binet & Simon, 1916; Galton, 1869). Intelligence as measured by IQ is therefore more closely linked to trait research. Conversely, the operation of the rational mind in combination with the experiential mind has been shown to be more volatile and adaptable and may change over time and circumstances depending on the impact of emotions and unconscious constructions (Epstein, 2014). While the rational mind thinks logically, this aspect of constructive thinking is impacted by the volatility and changeability of the experiential mind, and thus places this research within the arena of dispositional attributes.

Epstein (2014) showed that the experiential mind can be developed to enhance an individual’s ability to process unconscious and preconscious thoughts, thereby increasing the capacity to cope, adapt and maintain well-being. Constructive thinking is the processing strategy of the experiential mind that has the capacity to adapt and change and directly influences the rational mind’s ability to process and make decisions. Therefore, constructive thinking aligns with the previous two dimensions, self-concept well-being and internal locus of control, as a malleable dispositional attribute (Erez & Judge, 2001).

5.3.4 Constructive Thinking Research

As previously stated, this is a field of psychology with limited studies, and there are even fewer studies in the organisational arena (Epstein & Meier, 1989). Most of Epstein’s (1998) early
research on constructive thinking focused on the development of the construct and validation of the Constructive Thinking Inventory. Erez and Judge (2001) conducted further research to validate the Inventory and showed that constructive thinking and emotional coping were strongly intercorrelated. They also found strong links between constructive thinking and locus of control, self-efficacy, self-esteem and emotional stability (Erez & Judge, 2001).

From a well-being perspective, research has found that constructive thinking is positively correlated with psychological adjustment and well-being (Bostic, 2003). Specifically, Bostic (2003) found that high levels of constructive thinking resulted in greater vitality, better mental health and fewer unhealthy physical symptoms. Harris and Lightsey’s (2005) longitudinal study found that constructive thinking predicted enhanced levels of well-being, positive affect and happiness over time. They also found that personality traits lost most of their predictive strength over time. Haaga, Dyck and Ernst (1991) found that dysfunctional constructive thinking patterns such as perfectionism and overgeneralisation led to lower levels of well-being and greater unhappiness. Research in this area has also demonstrated that high levels of constructive thinking contribute significantly to reducing stress, promoting efficiency, enhancing the ability to interpret pressure and allowing the individuals to process real threats more effectively (Epstein, 1998; Evers et al., 2004). For example, Epstein and Katz (1992) showed that constructive thinking resulted in a greater ability to cope with stress.

From a resilience perspective, research shows that constructive thinking contributes to the individual’s ability to bounce back and deal with challenges and setbacks (Epstein, 2014). Wissing and Van Eeden (2002) found that constructive thinking contributed to resilience, satisfaction in life, coping and a sense of personal coherence, while Epstein and Meier (1989) found that an individual’s preconscious coping style is a much more important dimension of life success and resilience than IQ.

Organisational research has shown that the sound processing of cognitive reactions results in balanced and sustainable actions and decision-making in a business setting (Epstein, 2014).
Constructive thinking has also been shown to have positive correlations with organisational commitment (Kimball & Nink, 2006). Research also shows that maladaptation in constructive thinking processes produces dysfunction in rational thoughts, behaviours and emotions and results in faster development of work burnout (Evers et al., 2004). From a leadership perspective, Atwater and Yammarino (1993) found that constructive thinking contributed a significant portion of the variance in the positive ratings on transformational and transactional leadership measures. Cerni, Curtis and Colmar (2008) and Curtis, King and Russ (2017) found positive correlations between constructive thinking and transformational leadership. Based on the research to date, constructive thinking has important implications for our understanding of difference and is a key dimension of resilience that supports the ability to deliver a transformational leadership style (Epstein, 2014; Erez & Judge, 2001).
Chapter 6: Organisational Resilience and Leadership Research

Leadership capability in today’s world, with all its complex business demands, cannot be fully explained by traditional individual difference research in areas such as IQ and personality (Goleman, 1995; Judge & Bono, 2001; Judge, Bono, Erez, & Locke, 2005; Lefcourt, 1992). The breadth of the research that has evolved in the malleable dispositional attributes domain, and its implications for enhancing the capacity of individuals, offers a new way of looking at the issue of individual differences and the impact on leadership (Baddeley, 1996; Campbell, 1990; Rutter, 1999). There is a developing body of research showing that malleable dispositional attributes positively contribute to intra-personal leadership capabilities and enhance a leader’s capacity to successfully navigate complex environments while maintaining well-being (Garbowski, 2010; Sylvester, 2009). This intra-personal leadership capacity is the essential underlying attribute that supports leaders in their ability to maintain healthy inter-personal relationships and deliver a transformational leadership style (Howell & Avolio, 1993).

The previous chapters reviewed research on leadership, resilience and the dimensions of resilience. This chapter will examine the research that brings these constructs together within the leadership domain, reviewing the most recent organisational research linking resilience and leadership.

In a small number of recent studies, malleable dispositional attributes have been shown to provide a new perspective on individual difference research, particularly their ability to explain the capacity of an individual to deliver a transformational leadership style (Garbowski, 2010; Howell & Avolio, 1993; Sylvester, 2009). Research has shown that leaders who successfully manage their cognitive and emotional functioning have the capacity to enhance inter-personal relationships and maintain an effective leadership style (Howell & Avolio, 1993). For example, Kinman and Grant (2011) found that in a social work environment, emotional and social competencies explained 47 per cent of the difference in levels of resilience. They also found that these competencies
significantly mediated the effects of stress and enhanced the individual’s ability to maintain well-being and lead effectively (Kinman & Grant, 2011). Recent studies have also shown that improved levels of resilience enable individuals to deliver a transformational leadership style (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014).

There is a growing body of research investigating the link between dispositional attributes such as resilience and leadership style (Howell & Avolio, 1993; Maulding et al., 2012). A small number of recent studies have looked at the link between the dispositional attributes of resilience and transformational leadership (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). Four recent research papers that focus specifically on the relationship between resilience and transformational leadership are reviewed in this chapter: Garbowski (2010), Offutt (2011), Sylvester (2009) and Wasden (2014).

Garbowski (2010) found a significant positive correlation between transformational leadership behaviours and the malleable dispositional attributes of hope, optimism and resilience. Resilience was shown to have a stronger correlation with transformational leadership than the other attributes. The study was conducted on the US Federal Emergency Management Agency (n = 137). While the results are significant, the research does have limitations regarding its generalisability across a broader leadership domain due to the single organisational focus. The attributes used are interrelated and previous research has indicated that optimism and resilience are closely aligned constructs that may measure the same indicator (Kobasa, 1979; Seligman, 1998). Garbowski (2010) made no attempt to define the dimensions of resilience in a leadership context—a limitation in its application in organisational settings. This research, however, offers support to the hypothesised relationships defined in the present research studies, in that the malleable dispositional attributes of resilience were found to be positively correlated with a transformational style of leadership.

Sylvester (2009) investigated correlations between a range of variables and transformational leadership and found that resilience explained approximately 23 per cent of the variance in transformational leadership (n = 356). These findings are consistent with Studies 1 and 2 in that the
resilience of leaders is hypothesised to be significantly related to a transformational leadership style. Sylvester (2009) found no significant relationships between leadership and the demographics of gender, age, education, years of experience or salary level. Similar to Garbowskki (2010), Sylvester (2009) focused on one organisation, thereby reducing the generalisability of the research. There is also no definition of the dimensions of resilience, making it challenging to ensure the applicability of the research in organisational contexts.

Offutt (2011) linked resilience and leadership in an educational setting (n = 88), although she did not make use of the transformational leadership model. Her findings showed the strongest positive correlation between resilience and two fundamental aspects of leadership practices, modelling the way and inspiring a shared vision. This research also found no relationship between the resilience dimension of flexible thought (which may link to constructive thinking) and the domains of leadership practice that were measured. These findings are informative for Studies 1 and 2 as they provide a research link between resilience and leadership practices. There are some limitations in Offutt’s (2011) research, which makes it possible to postulate that this lack of correlation may be a research issue. The main limitation of the study was that the model of resilience and the diagnostic used were both developed in a clinical rather than an organisational setting. In Studies 1 and 2 of the present thesis, the resilience model was specifically designed to assess resilience within an organisational and leadership context. Offutt (2011) replicated the findings of Sylvester (2009) in confirming that the relationship between the level of education and leadership practice were not significant. These results support the hypothesis of the present research, that constructive thinking is essential in leader resilience. It also validates the premise that IQ (as measured by educational attainment) does not provide a complete understanding of the mental functioning necessary for resilience (Epstein, 2014).

Wasden’s (2014) study was also conducted in an educational setting (n = 80) and found a moderate correlation between resilience and transformational leadership. The findings also reiterated Offutt’s (2011) work, showing that education attainment was not significantly correlated
with either resilience or transformational leadership. To date, organisational research has not demonstrated support for a link between demographics (especially educational attainment) and transformational leadership (Offutt, 2011; Sylvester, 2009). The limitations of Wasden’s (2014) research are similar to the previous studies in that the research was conducted in a single organisation and did not specifically define resilience in the organisational setting.

These four studies provide consistent evidence of the relationship between resilience and leadership style (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). The focus of these studies was to measure the higher-order constructs of resilience and its impact on leadership style. Therefore, they do not offer clarity on the dimensions of resilience in an organisational context. Studies 1 and 2 in the present thesis identified this gap in the theorising on resilience and sought to address it by researching the dimensions of resilience applicable in an organisational setting. The proposed model of leader resilience aligns with Bass’s (1985) transformational leadership model and draws on research from a range of disciplines to define resilience and the dimensions of resilience in an organisational context. This is anticipated to offer enhanced generalisability and greater application in the area of leadership.
Chapter 7: Leadership Development and Enhancement of Leader Resilience

This chapter focuses on research that elucidates and investigates the developmental practices used to enhance leadership capability and a leader’s ability to bounce back. Study 2 involved the design and delivery of an intervention to improve the ability of leaders within the framework of the proposed model of leader resilience (see Figure 4.1). Therefore, it is important to review the research on leadership development and its links to both malleable dispositional attributes and leadership style. This chapter discusses the research on leadership development and more recent studies that indicate ways to enhance outcomes of leader development (Boyatzis, 2008; Burke & Day, 1986; Day & Sin, 2009). The chapter concludes with a review of the interventions utilised in the development of the workshop content used in Study 2.

7.1 Leadership Development

Research on leadership development has significantly trailed behind the broader leadership research and has not had the attention it deserves (Avolio et al., 2013; Howard & Wellins, 2009). The reasons for this lack of direction and focus are many and varied. Day and Sin (2009) suggested that it is related to the lack of a consistent scientific theory and a lack of quality research. Added to the lack of agreement regarding a definition or theory of leadership is the complexity around the assessment of leadership development, making it challenging to define outcomes that can be effectively measured. Riggio (2008) also noted that leadership skills are both abstract and complex, and therefore challenging to develop and evaluate. Within most organisations, however, leadership development is still the main strategy utilised to enhance leadership and improve leadership outcomes (Howard & Wellins, 2009). Fulmer and Goldsmith (2000) estimated that organisations spend upwards of $16.5 billion on leadership development each year. Despite this investment, there
are still mixed results concerning the effectiveness and outcomes of leadership development strategies.

In their review of global leadership development practices, Howard and Wellins (2009) observed that leadership development is not achieving the desired organisational outcomes. For example, there is evidence that the effects of leadership development interventions are relatively short-lived and do not achieve the desired change in behaviours (Creed & Davies, 2009). Conversely, there is evidence of positive short- and long-term outcomes related to leadership development (Burke & Day, 1986). Some meta-studies have confirmed that significant change can occur as a result of leadership development, although the desired outcomes are not always achieved (Burke & Day, 1986; Morrow et al., 1997).

Traditional leadership development programs have been designed to include a variety of skills-based topics such as marketing, strategy, managing change and managing performance. The choice of subjects has been dependent on the individual business challenges and requirements deemed to be important aspects of organisational success at that point in time (Barling, Weber & Kelloway, 1996). These traditional leadership programs have shown mixed results regarding their impact on leadership outcomes (Russell & Kuhntert, 1992).

Day (2001, 2009) separated leadership development and leader development. Leadership development and the more traditional leadership programs focus on developing leadership skills and organisational leadership deliverables. Conversely, leader development focuses on developing the intra-personal capacity of a leader and their capacity to lead effectively (Day, 2001, 2009) This distinction was reiterated by Landy and Conte, (2016), who noted that there had been greater focus and investment in leadership development, as opposed to leader development. These differences may play a part in the mixed results of leadership developmental practices (Day, 2001). The present research incorporated the design of a tool for leader development and offer exciting possibilities for the future of organisational development practices in the leadership domain.
7.2 Enhancing Leadership Development Results

There is a growing body of research describing ways of enhancing the impact of leadership development (Button, Mathieu & Zajac, 1996; Day & Sin, 2009; VandeWalle, 1997; Wasylyshyn, 2008). Wasylyshyn (2008) found that including behavioural dimensions in leadership development significantly increased the impact of the training back in the work context. Research has also found that enhancement of a leader’s personal identity and self-regulation had a greater impact on leadership development (Day, Harrison & Halpin, 2009; Hall, 2004). Day and Sin (2009) found that developmental interventions focused on improving clarity around leadership identity resulted in enhanced levels of leadership effectiveness.

There is a body of research that shows that developing aspects of resilience within leadership programs has a positive impact on developmental outcomes (Boyatzis, 2008; Button et al., 1996; Day & Sin, 2009). It has been shown that using an intentional change theory (ITC) framework enhances the outcomes and longevity of leadership development programs (Ballou, Bowers, Boyatzis & Kolb, 1999; Boyatzis, 2008; Wheeler, 2008). An ITC framework focuses on developing resilience as a core part of the program (Wheeler, 2008). It has also been shown that leadership development is enhanced by a mastery approach to the learning experience (Button et al., 1996; Day & Sin, 2009; VandeWalle, 1997). This approach is related to aspects of the cognitive characteristics and the self-determination aspects of resilience (Button et al., 1996). These enhancements in leadership development offer a new perspective on building leadership competence and the capacity to cope with the complexity of today’s business context.

7.2.1 Leader Resilience Interventions in Western Australia

Resilience-type interventions have not been a standard feature of Western Australian organisational development strategies (Fehring & Herring, 2012). The business environment of growth over the past three decades has resulted in a very narrow approach to organisational development, and although there has been a change in the economic environment more recently, this has not yet translated into a refocus in this area. As a result, there has been a greater emphasis
on training with a focus on the more transactional aspects of leadership development, such as recruitment, remuneration, communication and performance management (Fehring & Herring, 2012). In the leadership domain, this has resulted in greater emphasis on more transactional development activities with a limited focus on developing the internal capacity of the leader that leads to a transformational capacity in leadership (Day & Sin, 2009). This lack of focus on leader development in Western Australia requires a significant review of the types of interventions that will be delivered in the future.

7.2.2 Research on Resilience Interventions

Research into the development practices used to enhance malleable dispositional attributes indicates that resilience levels can be altered by well-designed interventions (Maddi, Kahn & Maddi, 1998). There have been a range of strategies utilised to develop resilience, all of which have produced varying levels of positive outcomes (Varker & Devilly, 2012). These strategies include online training, coaching, mentoring, outdoor activities and workshop attendance (Cohn & Pakenham, 2009; Sood, Prasad, Schroeder & Varkey, 2011).

There is a significant body of research examining the impact of developing various malleable dispositional attributes in the military arena (Adler, Williams, McGurk, Moss & Bliese, 2015; Cohn & Pakenham, 2009). For example, cognitive behavioural programs have been shown to deliver healthy states of mind, lower levels of psychological distress and lower levels of self-blame, and to increase positive attributions for problems (Cohn & Pakenham, 2009). Furthermore, Adler et al. (2015) found that resilience workshops during basic combat training resulted in a decrease in anxiety, greater confidence in helping others and enhanced levels of mental health. Mastery resilience training for soldiers has also been shown to improve self-awareness, strengthen personal character, improve optimism, enhance connection with others and increase coping in stressful situations (Griffith & West, 2013).

There is a fairly substantial body of research looking at the impact of malleable dispositional attribute training in the emergency services. For example, resilience training offered to emergency
services personnel was shown to reduce the adverse effect of stressful incidents (Varker & Devilly, 2012). Medical professionals who were offered resilience training showed a greater ability to cope with stressors, reduced anxiety and overall improvement in quality of life (Sood et al., 2011). Arnetz, Nevedal, Lumley, Backman and Lublin (2009) found that police officers experienced a reduction in negative mood and better performance as a result of resilience training.

In a broader context, with a group of well-functioning adults, resilience training was shown to result in an improved ability to cope and enhanced overall life experience (Schiraldi, Jackson, Brown & Jordan, 2010; Robertson, Cooper, Sarkar & Curran, 2015). Research on the impact of hardiness training has consistently shown that it enhances job satisfaction and social support and reduces strain (Maddi et al., 1998). Further, Kolzow (2014) found that Stephen Covey’s principle-centred leadership training impacted positively on leaders’ personal and professional lives, resulting in better work-life balance, personal mastery and a commitment to lifelong learning. Neuro-linguistic psychotherapy has also been shown to have a significant impact on clinical symptoms and an improvement in the quality of life for patients (Stipancic, Renner, Schütz & Dond, 2010).

The research outlined above indicates that there can be positive results associated with the development of dispositional attributes, and this research strongly influenced the design of the workshop intervention in Study 2 (Kolzow, 2014; Maddi et al., 1998).

### 7.3 Development of the Leader Resilience Training Program for Study 2

The development of the leader resilience workshop utilised in Study 2 involved a review of interventions aimed at enhancing individuals’ ability to bounce back and maintain well-being along with their capacity to deliver a healthy leadership style. Study 2 included a comprehensive assessment of a range of workshops and interventions focused on developing resilience, which is described in the transformational leadership model as the intra-personal capacity of an individual.

In alignment with the proposed model of leader resilience, development strategies were investigated covering the topics of resilience, personal effectiveness and self-concept, hardiness and cognitive management. An international google search was carried out to investigate all programs
offered related to resilience. Links with organisations that deliver training related to resilience were also accessed more directly. In total Twenty-seven interventions were reviewed in the process of defining those that would be included in a more detailed review process. The first stage of the review included an assessment of the specific content of each of the 27 interventions to assess whether the contents indicated that the focus was on developing the three dimensions of leader resilience defined in the present research. Detailed assessment was carried out on the interventions, which included all three dimensions of the resilience model. Once the shortlist of 11 workshops had been defined, further investigations were carried. This assessment included a review of the content of the programs and the delivery style of the interventions. This more detailed review incorporated an analysis of the workshop content, how these programs were facilitated and any research (published and unpublished) on the outcomes of these interventions. From the second stage of analysis, the final list of 6 interventions, that most closely aligned with the proposed model of leader resilience, was made. The reduction from 11 to 6 was made based on three critical criteria, firstly that the intervention was aligned with the resilience dimensions, secondly that the developmental strategy was aligned with experiential learning, and thirdly that the program was accessible and could be attended or gain access to the materials. These workshops were attended, or a full facilitators guide was reviewed. The researcher attended five programs, and the final one was reviewed based on an interview with the program facilitator and an analysis of the materials. The six interventions which were reviewed in detail were:

- The Seven Habits of Highly Effective People (The Franklin Covey Organisation, United States)
- Resilient Leadership (Resilience Institute, New Zealand)
- Resilience in Times of Change (Thrive Consultancy, United Kingdom)
- Transactional Analysis (The Metanoia Institute, United Kingdom)
- The HardiTraining program (The Hardiness Institute, United States)
- Neuro-Linguistic Programming (Advanced Neuro Dynamics, United States)
The training intervention in study 2 was designed to align with the model of leader resilience proposed in Chapter 4. The review of existing interventions was designed to assess and review the developmental strategies that would be incorporated into the final design of the workshop. The impact of this intervention was evaluated with a pre- and post-field-based quasi-experimental design to assess whether the development of leader resilience had a positive impact on leader resilience and leadership style.

Research for the three-day workshop was completed over a 12-month period. During this period, the outline of the program was defined, along with the modules that would form the content of the program. This process commenced with a review of 27 workshops and interventions identified as being aligned with developing leader resilience. A review process defined 6 interventions that were directly aligned with the proposed model of resilience and attendees of these programs or the designers and facilitators were interviewed. This process ensured a comprehensive understanding of the topics covered and the style of facilitation used in the delivery of each of the workshops. Based on the review, 10 topics were identified as important from a developmental perspective, and each was developed into a workshop format. These individual topics were then pre-tested with groups before combining them in the full three-day workshop-based intervention. An overview of the 10 topics and their content is presented below.

Day 1 of the program covered ‘Leadership in the Twenty-First Century’. It comprised four topics:

1. Organisational and environmental context—this provided delegates with an opportunity to experience and discuss the complexity and changing nature of the workplace in the twenty-first century. It also exposed them to videos and activities that allowed them to step outside of their organisational context to better understand the changing nature of work and the requirement for resilience.

2. Leadership framework—this commenced with a discussion of the changing nature of leadership and the constant need to stay ahead and remain flexible. This was followed
by a discussion of transformational and transactional leadership in which individuals were given an opportunity to reflect on their personal leadership and where their strengths and weaknesses lay.

3. Why focus on resilience?—this commenced with a discussion of the impact of not managing resilience and, in particular, the implications of pressure turning into stress. There was an opportunity for delegates to reflect on their stress levels and the consequences of stress in the short and long terms. This topic concluded with a discussion on the need to build resilience to cope with stress and pressure in the working context.

4. Defining resilience and the leader resilience model—this focused on leader resilience and the proposed model of leader resilience. It gave delegates an opportunity to embed their understanding of the model and the importance of developing all three aspects of leader resilience. A diagnostic designed to align with the model of leader resilience was utilised. Delegates rated themselves and then identified the areas they would focus on to enhance their leader resilience.

Day 2 of the program covered ‘Developing Resilience’. It comprised three topics:

5. Locus of control—the concept of locus of control was introduced and delegates were given the opportunity through activities to understand the impact of an internal versus external locus of control. They were given video examples of individuals with an internal and external locus of control and built personal strategies for maintaining an internal locus of control.

6. Self-concept well-being—delegates spent time defining what was important to them and the things that would make them successful. They also had an opportunity to think about their personal values and beliefs and the implication of these for self-awareness and greater understanding of their unconscious drivers. The Myers-Briggs Type Indicator was utilised to allow delegates to reflect on their personal style and its implications for resilience and leadership.
7. Constructive thinking—delegates reflected on their thinking style and how it impacted their ability to remain productive in their thinking. There was an opportunity for participants to reflect on their internal constructions and self-talk along with the implications for their resilience and ability to maintain healthy relationships.

Day 3 of the program covered ‘Resilience in Action in Inter-personal Relationships’. It comprised three topics:

8. Resilience and inter-personal competence—this focused on inter-personal skills and use was made of all of the aspects of transactional analysis described by Eric Burn (Stewart & Joines, 2011). The parent-adult-child model was used to help delegates understand their interactions. Delegates were also given the opportunity to develop new patterns of interaction and plan ways that they could enhance their inter-personal impact and their leadership style.

9. Team resilience—this focused on group dynamics and group resilience, ensuring that delegates had a very real experience of how true collaboration can enhance outcomes and success in a team. Delegates completed an online diagnostic on resilience in their work team, which allowed them to actively choose ways they would improve their team’s levels of resilience. This was a very active session that allowed participants to experience firsthand the impact of healthy and unhealthy group dynamics.

10. Organisational resilience—this brought all the levels of resilience together to define how resilient organisations operate and offered delegates the opportunity to review their own businesses. They developed strategies for understanding and managing a resilient culture to enhance outputs and organisational success.

The three-day workshop concluded with an opportunity for personal reflection and allowed delegates to define the areas of development that would be their focus for the next 12 months. The commitments that individuals made regarding their future development were recorded in a written document that was given to the facilitator at the end of the workshop. This document was used as a
starting point for the follow-up phone coaching session. This post-program coaching was part of the intervention designed to deliver the change and was completed two weeks after the program to check in with individuals and ensure they were being supported to enhance their leader resilience in the workplace.
Chapter 8: Research Framework, Questions and Hypotheses

This chapter will define the research framework and questions that have formed the foundation of the present study. As previously mentioned, organisational research has not defined a model of resilience and there are limited references to organisationally defined dimensions of resilience (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). This lack of a conceptual framework for leader resilience in the organisational setting and the lack of focus on the dimensions of resilience is the foundation for the direction of the present research.

8.1 The Research Framework

As stated in Chapter 3, the field of organisational psychology has maintained a consistent focus on leadership research since the early 1900s, with a dominant focus on enhancing business outcomes through increased effectiveness in leadership (Landy & Conte, 2016). The evolution of the debate culminated in Bass’s (1981, 1985, 1998) full-range model of leadership, which has been consistently researched and validated over the past 30 years. The review in Chapter 3 highlighted the importance of shifting the focus of leadership research towards strategies for developing transformational leadership capacity (Avolio et al., 1999; Bass, 1985; Bycio et al., 1995; Howell & Avolio, 1993). The review also described the limited research investigating the intra-personal capacity of leaders and how this influences the ability of a leader to deliver a transformational leadership style. As discussed in Chapter 6, the most recent organisational research indicates that intra-personal leadership capacity requires well-developed dispositional attributes. Developing these attributes is essential for enhancing leadership development outcomes (Garbowski, 2010; Offutt, 2011; Sylvester, 2009).

Based on the research outlined in the preceding chapters, the conceptual model for leader resilience and transformational leadership is shown in Figure 8.1.

The present research proposes a model of leader resilience based on a multidisciplinary review of research and aligned with the transformational leadership model defined by Bass (1985).
Leader resilience is conceptualised in the present research as the intra-personal component of leadership and is aimed at building personal well-being and psychological adjustment (Bass et al., 2003). It was also postulated that stronger levels of leader resilience in the intra-personal aspect of leadership will support a leader to consistently deliver a transformational leadership style in the inter-personal aspects of leadership.

The present research also proposed three factors that determine leader resilience in the organisational setting: self-concept well-being (Campbell, 1990), internal locus of control (Rotter, 1966) and constructive thinking (Epstein, 1998). This framework proposes that it is necessary for leaders to maintain and develop their intra-personal leadership with a focus on resilience. This focus on resilience allows leaders to deliver effectiveness in the inter-personal leadership space, ensuring...
healthy decision-making and coping strategies that remain flexible in the dynamic and ever-changing organisational setting (Bass et al., 2003; Epstein, 2014).

8.2 Research Questions and Hypotheses

This section presents the research questions that formed the basis of Study 1 and Study 2. The research questions were developed in alignment with the aims of the study and formed the basis of the individual hypotheses that guided the research. The methodology used in the two studies and the statistical analyses of results are described in detail in Chapters 9 and 10, respectively.

8.2.1 Study 1 Research Questions, Hypotheses and Model

8.2.1.1 Research Questions

Research question 1 (Study 1): What is the relationship between resilience and the underlying dimensions of resilience, self-concept well-being, internal locus of control, and constructive thinking?

The first aim of Study 1 was to propose and test a model of leader resilience based on the findings of the multidisciplinary review of prior research (see Figure 4.1). This model, whose research foundations were presented in Chapter 4, formed the foundation of the research questions for both Study 1 and Study 2. Study 1 was also designed to statistically analyse the relationship between resilience and the dimensions of resilience—self-concept well-being, internal locus of control and constructive thinking.

Over the past two decades, malleable dispositional attributes have become an important area of research in the drive to more fully understand human functioning and individual differences in the organisational context. Resilience in particular has generated substantial interest and has resulted in an enhanced focus on this area of research over the past decade (Richardson, 2002; Wagnild, 2009). The resilience research described in Chapter 4 informed the definition of the proposed model of leader resilience and highlighted the areas of focus for the key research questions that informed the design of both Study 1 and 2. Previous research clearly indicates that malleable dispositional attributes such as resilience enhance our understanding of aspects likely to impact on leadership
capability (Judge, 2009; Judge et al., 2002). As the research on resilience in an organisational context is still in its infancy, Study 1 incorporated research from a range of disciplines to enhance understanding and ensure that outcomes can be achieved in the leadership space.

**Research question 2 (Study 1):** What is the relationship between the malleable dispositional attribute of leader resilience and leadership style?

The second aim of Study 1 was to investigate the relationship between leader resilience and leadership style. The leadership debate over the last two decades has broadened to consider the personal capacity of individuals and the impact this has on the ability of leaders to consistently deliver a transformational leadership style. Research focusing on malleable dispositional attributes such as resilience offers an alternate perspective on individual difference and adds to the understanding of leadership and the outcomes of leadership (Garbowski, 2010; Howell & Avolio, 1993; Sylvester, 2009). Recent research has shown that there are significant positive correlations between resilience and transformational leadership (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). More research is required to more fully understand the complexity of the relationship between leadership style and dispositional attributes, and Studies 1 and 2 add to this research base.

**8.2.1.2 Hypotheses**

Research suggests the importance of identifying the underlying dimensions of a higher-order construct to account for greater levels of significance (Judge et al., 1998; Rutter, 1999). The review of research into malleable dispositional attributes in Chapters 4 and 5 revealed that in the organisational domain, resilience has generally been conceptualised and researched as a higher-order construct. More recent research has provided evidence that the higher-order construct of resilience has a significant impact on leadership style (Garbowski, 2010). However, clinical measures and clinically defined dimensions of resilience have been used and there has been no attempt to define the underlying dimensions of resilience in an organisational context (Garbowski, 2010; Offutt, 2011; Sylvester, 2009).
**Hypothesis 1:** Significant positive relationships exist between resilience and the postulated dimensions self-concept well-being, internal locus of control and constructive thinking.

Based on a multidisciplinary review of the previous research, it was hypothesised that self-concept well-being, internal locus of control and constructive thinking are the dimensions of leader resilience in an organisational context (Garmezy, 1991; Keyes, 2002; Rutter, 1999; Wagnild, 2009). Study 1 explores the relationship between leader resilience and the hypothesised dimensions that influence the levels of leader resilience.

**Hypothesis 2(a):** There is a significant positive relationship between resilience and a transformational leadership style.

**Hypothesis 2(b):** There is a negative relationship between resilience and a transactional leadership style.

There are several recent studies in the organisational domain indicating the link between the resilience of an individual and the ability of a leader to deliver a transformational style of leadership (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014) (see Chapter 6). Study 1 adds to the body of research in this very new and evolving area and enables greater generalisability of the findings to a range of organisations. The unique aspect of the present research is that the focus is specifically on the relationship between these two constructs and that this has not been diverted to other factors and aligned constructs. Previous studies in this area investigated a range of factors including optimism, hope and demographic factors impacting on transformational leadership (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). In the present context of business with the volatile and unpredictable nature of work, leaders will face adversity regularly (Lewis, Goodman & Fandt, 2000). For example, Peterson, Walumbwa, Byron and Myrowitz (2009) showed that in the context of organisational adversity the traits of hope, optimism and resilience were a prerequisite for effective delivery transformational leadership. Sommer, Howell and Hadley (2016) show that in the context of organisational crisis, transformational leadership is associated with the positive affect of the leader and higher levels of resilience in the team. In contrast, specific...
dimensions of transactional leadership, such as management by exception, are associated with negative affect and lower levels of team resilience. The present research hypotheses define this differential with resilience being positively associated with transformational leadership and negatively associated with transactional leadership. The focus of the present research was to define the intra-personal capacity of the leader and sought to measure the impact of this on the ability to deliver a transformational leadership style.

8.2.1.3 Research Model

Based on the research questions and hypotheses, an SEM was developed that formed the basis of the statistical analysis for Study 1 (see Figure 8.2).

8.2.2 Study 2 Research Questions and Hypotheses

Study 2 required the development of a training intervention designed to enhance leader resilience. This training intervention was aligned to the model of leader resilience proposed in

Figure 8.2. Proposed model of the relationships informing design of the structural equation modelling.

Chapter 4 (see Figure 4.1). This intervention was then utilised to assess whether leader resilience and leadership style could be developed using an intervention of this type. The research was completed using pre- and post-diagnostics in a field-based quasi-experimental design. This was
designed to ascertain whether developing leader resilience had a positive impact on an individual’s level of resilience, dimensions of resilience and leadership style. This section presents the research questions and hypotheses for each of the aims of Study 2.

8.2.2.1 Research Questions

**Research question 3 (Study 2):** Can a three-day training intervention designed to develop leader resilience bring about a change in the resilience of the participants?

The focus of Study 2 was to research and develop an intervention to enhance leader resilience. The research conducted to develop this intervention and an outline of the workshop content was presented in Chapter 7. The first aim of Study 2 was to investigate whether the intervention designed to enhance leader resilience brought about a change in measures of resilience. There are a range of training programs aimed at enhancing resilience and malleable dispositional attributes of a similar nature, and the results have consistently been shown to result in enhanced resilience, improved self-awareness, strengthened personal character, higher levels of optimism, greater connectivity with others and increased ability to cope in stressful situations (Cohn & Pakenham, 2009; Griffith & West, 2013; Schiraldi et al., 2010). Thus, it was expected that the three-day workshop would result in enhanced levels of resilience.

**Research question 4 (Study 2):** Can a change in leader resilience be used to predict a positive change in transformational leadership style?

The second aim of Study 2 was to investigate the impact of developing leader resilience on self-assessed and boss-assessed leadership style. Chapter 6 reviewed research investigating the link between resilience with leadership style. With these links as the starting point, there was an opportunity to investigate the correlation between enhancing leader resilience and leadership style (Boyatzis, 2008; Burke & Day, 1986; Day & Sin, 2009). However, no previous published research has specifically linked leadership resilience training with an enhanced transformational leadership style. The present research hypothesised that a change in leader resilience would result in a positive change in transformational leadership (see Section 8.2.2.2).
8.2.2.2 Hypotheses

Hypothesis 3(a): The intervention will lead to a significant positive change in leader resilience.

Hypothesis 3(b): The intervention will lead to a significant positive change in the dimensions of leader resilience.

Research indicates that participants in interventions designed to enhance resilience will display a positive shift in their measures of resilience and other aspects of healthy psychological functioning (Creed & Davies, 2009). For example, participation in programs such as The Penn Resilience Program results in enhanced levels of resilience and general life satisfaction (Reivich et al., 2013). There is also evidence that developing malleable dispositional attributes has a positive impact on the outcomes of leadership development (Ballou et al., 1999; Boyatzis, 2008; Wheeler, 2008). It was expected that leader resilience training would enhance participants’ levels of resilience and the factors that underpin resilience in the leadership domain.

Hypothesis 4(a): Developing leader resilience will have a significant positive impact on self-assessed and boss-assessed transformational leadership scores.

Hypothesis 4(b): Developing leader resilience will have a negative impact on self-assessed and boss-assessed transactional leadership scores.

Hypothesis 4(c): There is a positive correlation between self-assessed and boss-assessed scores of transformational leadership.

Research has shown that resilience is positively associated with a transformational leadership style and is negatively associated with a transactional and laissez-faire leadership style (Bass, 1985; Day & Sin, 2009; Hall, 2004; Hunt & Larsons, 1977; Runyon, 1973). Research indicates that leaders who are resilient are more likely to take on an inter-personal leadership style and engage and inspire their subordinates to go beyond self-interest to work for the greater good of the organisation (Garbowski, 2010; Offutt, 2011). Therefore, it was hypothesised that the
enhancement of leader resilience will be positively associated with a transformational style of leadership and negatively associated with a transactional style of leadership.
Chapter 9: Methodology

This chapter presents the methodology utilised to investigate the research questions. Studies 1 and 2 are discussed separately, starting with a full description of the design and the rationale for each study. This chapter also outlines the target population, sample, instruments and data analysis used in the studies.

9.1 Methodology for Study 1

9.1.1 Purpose and Research Design

Study 1 had two main purposes: 1) To test the hypothesised association between resilience and the dimensions self-concept well-being, locus of control and constructive thinking (Campbell, 1990; Epstein & Meier, 1989; Rotter, 1990; Wagnild, 2009); and 2) to investigate the relationship between resilience and transformational leadership style (Bass, 1985; Wagnild, 2009). A field-based, cross-sectional, non-experimental design was used, along with purposive sampling and quantitative data analytic methods. Participants were drawn from a range of organisations across Western Australia in both the private and public sectors. This design ensured that the results were supported through the use of psychometric tools that are well researched and validated. Purposive sampling was used, with specific organisations being targeted to ensure a range of participants from across sectors and organisations to enable greater generalisation (Kerlinger, 1986). There were some challenges with achieving an acceptable sample size due to the sampling strategy adopted. However, the focus of Study 1 was on accessing participants from a range of organisations, so these challenges were tolerated. Potential participants were accessed when the researcher was involved in conducting workshops in the relevant organisations.

Data analysis was conducted to establish the relationship between leader resilience and the dimensions of resilience, self-concept well-being, internal locus of control and constructive thinking. For this analysis, each hypothesis was tested independently using SPSS version 22. SEM,
bivariate correlations and multivariate regression methods were also utilised to control for relevant covariates.

The next section outlines the rationale and challenges of the design, research hypotheses sampling procedures and data analysis process.

9.1.2 Design Rationale and Challenges

A quantitative, non-experimental research design was utilised in Study 1. A quantitative non-experimental design can be a robust methodology for deductive field-based research involving a moderate number of respondents (Kelemen & Rumens, 2012). Field studies are an important element of organisational research as they provide data in the real-world context which may differ from results in a laboratory setting. Field-based studies have the capacity to add to the depth of our understanding of issues in an organisational context (Rogelberg, 2004). One of the criticisms of research in the organisational and leadership domain has been the lack of pragmatism and alignment with the realities of real-world practice (Kelemen & Rumens, 2012). This criticism was moderated with field-based research and was important to the outcomes of Study 1. Its importance is due to the research aim of influencing organisational development practice. To truly influence practice, it is necessary to demonstrate the pragmatism and realism involved in the research framework (Rogelberg, 2004). This required a design that was field-based, and a participant pool taken from a range of organisations.

A non-experimental design does, however, have limitations, including challenges related to manipulating the independent variable, risk of improper measurement and an overall lack of control for possible confounding variables (Rogelberg, 2004). Despite these limitations, the use of a non-experimental design does not negate the positive contributions of a field-based observational methodology that includes samples of participants in a natural setting (Kelemen & Rumens, 2012). Based on the purpose defined for Study 1 and the requirements regarding access to participants, a non-experimental field-based research design was the most relevant. Kerlinger (1986, p. 359) stated that ‘despite its weaknesses much non-experimental research must be done in psychology and
education simply because many research problems do not lend themselves to experimental inquiry’. It is also generally assumed that in a field setting the independent variable has greater strength (Rogelberg, 2004).

The research design provided an objective and consistent method with a moderate sample size, which is consistent with other organisational research in this area (Kelemen & Rumens, 2012). All psychometric instruments used in Study 1 have been previously validated and are considered to be reliable measures of their respective constructs (Rogelberg, 2004). The psychometric tools all presented with an internal reliability range higher than $\alpha = .7$ and acceptable levels of test-retest reliability (Kline, 1986). The use of valid and reliable measures, designed to assess and control for confounds and assumptions, goes some way to moderating the challenges of non-experimental design and enhancing control for error (Rogelberg, 2004).

The field-based research design allowed the study to access a range of participants from a variety of organisations across all sectors. Much of the research on organisational resilience has focused on single organisations, resulting in challenges in terms of environmental bias and lack of generalisability (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). In organisational research studies on resilience and leadership (discussed in Chapter 6), there was the possibility of environmental impact. For example, Offutt (2011) focused on leaders in an educational setting and Garbowski (2010) focused on leaders in a single government organisation. The results of both studies are likely to have been impacted by organisational culture and business context (Offutt, 2011; Garbowski, 2010). The research design utilised in Study 1 provided the opportunity to look at leaders across disciplines and organisations and broaden the research base to moderate the impact of business and cultural factors, thus enhancing the generalisability of the findings.

The sample size was an important element for ensuring the power of the statistical analysis completed using SEM. The power of a model includes both the alpha level used and sample size. The alpha level used in Study 1 was in alignment with acceptable power levels ($\alpha = .05$) for sample size minimisation. There are varying views on sample size, with the earlier rule of thumb being a
minimum of 100–200 (Boomsma, 1982). In terms of the rule of thumb measure, the sample size of the present research only just meets the criteria. Wolf, Harrington, Clark and Miller (2013) investigated sample size using Monte Carlo analysis and defined the sample size requirement as ranging from 30 for simple models to 460 for more complex models. Study 1 falls within these estimations, albeit on the lower end of the estimations with a moderately complex model. Wolf et al. (2013) noted that missing data increases the requirement of the sample size by 50 per cent. Study 1 only used participant responses where all the data was provided, ensuring that this did not impact on the power of the results. The sample size could potentially have been enhanced if there had been a follow-up procedure. However, part of the commitment given to each of the organisations involved in the research was that participants would be allowed to make their own decisions on involvement in the study and would not be pressured to participate.

9.1.3 Target Population and Participants

The target population was accessed over ten months, from March 2014 to January 2015, and included individuals holding a leadership position in which they were responsible for managing staff and delivering organisational outcomes. This process required ten months as the groups were invited to participate when the researcher was invited to run programs in the relevant organisations. Time management of the programs was dependent on the relevant organisation’s scheduling and availability of leaders and resources. The data collection method selected allowed access to groups of leaders where trust had already been established, and there was a higher likelihood of participants completing the assessment. The organisations involved included a range of West Australian organisations, including government, not-for-profit organisations and commercial enterprises.

Each of the organisations involved was approached to seek consent for their leaders to be invited to contribute to the study. This agreement was with the director generals of the government organisations and chief executive officers of the private and not-for-profit organisations. Each organisation was assured that participants would be invited to be involved in the research without
any pressure being placed on them. Once organisational agreement was obtained, potential participants were approached.

The majority of participants were approached at the completion of a variety of training programs that were being run by the researcher in each of the organisations. They were given an explanation of the research and the requirements of participation and were then requested to indicate their interest in participating by putting their name on a list and taking a numbered research pack. The research pack included an introductory letter that covered confidentiality, a consent form, the six diagnostics, instructions for completion of the diagnostics and a prepaid return stamped envelope with a return address to the researcher. Approximately 250 research packs were issued during the 10-month period.

The response rates were reliant on the individual taking the time to complete the questionnaires at their own discretion and within a timeframe defined by them. There was no follow-up with potential participants and completion was up to the individual. The decision not to follow up on completion of the questionnaires was based on the agreement with the participant organisations who insisted that this be a voluntary process and that no pressure be placed on people to participate. Approximately 30 to 50 per cent of the attendees who took the research packs completed and returned them in the pre-addressed envelope. This across-organisations result is consistent with, and in some cases slightly higher than, mail-based responses, which are usually around 30 per cent (Rosenthal & Rosnow, 1991).

Study 1 did have some challenges in relation to how participants were accessed. Participants were requested to take part in the study at the end of workshops conducted by the researcher. The participants, therefore, may have been affected by the researcher expectancy effect (Rogelberg, 2004). For instance, eligible participants spent time with the researcher in the workshop setting prior to their involvement in the study, which may have affected their reactions to the assessment (Rogelberg, 2004). Additionally, there could also have been some level of evaluation apprehension due to the relationship between the researcher and the participants’ organisation (Rosenthal &
Rosnow, 1991). The participants were, however, all assured of confidentiality and no information was collected in the research pack that would allow participants to be identified. There was also no follow-up or pressure placed on potential participants.

Participants in Study 1 consisted of 110 leaders from a range of organisations across Western Australia. The mean response rate was 44 per cent, with 110 respondents completing the questionnaires and approximately 250 research packs having been issued. Each of these participants completed all five of the diagnostic assessments and provided biographical data as requested.

9.1.4 Data Analysis

SPSS version 22 and SPSS Amos version 22 were used to conduct all statistical analyses for Study 1. The design was selected to allow for exploration of the relationships between resilience and the underlying dimensions of leader resilience as well as leadership style. The main focus of Study 1 was the validation of the model of leader resilience and the dimensions defined in the model, as well as the research link to leadership style (Judge et al., 2002) (see Sections 8.2.1 and 9.1.1).

To control for some of the error and enhance statistical power, SEM was utilised for Study 1 (Rogelberg, 2004). This allowed for the enhancement of statistical rigor in mapping and assessing the relationships between the various constructs (Raykov & Marcoulides, 2006). Breverton and Millward (2001, p. 6) stated that ‘structural equation models are used for theory development purposes.’ SEM allowed for statistical exploration of the theorised relationships.

Descriptive and inferential statistical methods were used to analyse the responses. The descriptive data was assessed to review for outliers in the responses. To ensure that there were no violations of assumptions of normality, linearity or homoscedasticity, the Shapiro-Wilk test and visual inspection of histograms and normal Q-Q plots were utilised.

A Pearson product-moment correlation coefficient and a multiple regression analysis were conducted for each hypothesis. A structural equation model was completed for the proposed model of leader resilience and proposed links to transformational and transactional leadership.
9.2 Methodology for Study 2

9.2.1 Purpose and Research Design

The purpose of Study 2 was two-fold: 1) To establish whether resilience can be enhanced through a three-day workshop-based intervention designed specifically for the purpose of enhancing leader resilience; and 2) to assess whether a change in leader resilience can be used to predict a shift in leadership style. A before-and-after cohort group design was utilised to meet these purposes. The quasi-experimental research design was designed to enhance the internal validity of Study 2 and to extend the assessment of the relationship between leader resilience and leadership style from the relationships established in Study 1. The impact of the workshop on a change in resilience was investigated through pre- and post-measurements of resilience and the dimensions of resilience defined in the proposed model. Leadership style was measured before and after the intervention by both self- and boss-assessments to address the issue of common method bias.

Study 1 only made use of self-reporting, as the population surveyed was larger and participants were sourced from a wide range of different organisations. Conversely, Study 2 made use of both self-assessment and boss-assessment to enhance measurement validity (Kerlinger, 1986). This enhancement of the measurement was made possible due to a smaller sample size and participants being sourced from just two organisations. The initial plan for Study 2 was to gain agreement from four to five organisations to participate in this phase. However, there were substantial challenges in obtaining commitment from businesses to allow their leaders to be released for three days and to complete the pre- and post-testing. A leadership program of this duration is unusual in Western Australia, with businesses preferring to focus on shorter interventions. However, based on a comprehensive review of existing interventions that deliver outcomes in this area of development, it was clear that to achieve lasting change that 3 to 5 days were required (Schiraldi, Jackson, Brown & Jordan, 2010; Robertson, Cooper, Sarkar & Curran, 2015). The organisations involved, committed to the interventions to bring about change in the leadership capability of the organisation. Based on the programs researched which were all three to five-day programs it was
assessed that to bring about change and provide a truly experiential learning environment with enhancing developmental outcomes three days was the minimum time for the intervention. The two organisations involved gave their full commitment from the commencement of the process.

Once organisational commitment was given, leaders attended the three-day leaders’ resilience development workshop and filled out before-and-after assessments. The organisations also made a commitment to ensure that each participant’s manager completed the MLQ 5 boss-assessment with respect to the subordinates from their division who attended the program. The design allowed for the exploration of the impact of an intervention by comparing psychometric measures before and after the intervention (Breverton & Millward, 2001).

**9.2.2 Design, Rationale and Challenges**

Study 1 utilised a non-experimental design, so it was decided that Study 2 would employ a slightly more robust quasi-experimental field-based design. Kerlinger (1986) suggested that a more robust choice of research designs is a combination that includes one non-experimental design to validate hypotheses and a second study with an experimental design to enhance the interpretation of results. The use of a quasi-experimental design in Study 2 was selected to enhance internal validity and provide further clarity on the research elements of leader resilience and leadership style.

Use was made of multiple data-gathering strategies in Study 2 to enhance the outcomes. Use of self-assessment as the primary source of data collection has its challenges, specifically around issues of overestimation (Zenger, 1992). Research in the leadership domain has been criticised for its overuse of self-assessment as the primary form of data gathering (Zenger, 1992). The research design for Study 2 included the use of a boss-assessment of leadership styles before and after the intervention to counter these criticisms. Transformational leadership was included in both the self- and boss-assessments, which were used to investigate participants’ direct supervisors’ views on whether there had been a significant shift in leadership style (Bass & Avolio, 1990).

In field-based research, there is a level of challenge in control due to the complexities of obtaining access to and the availability of participants (Cook, Campbell & Peracchio, 1990). These
problems were exacerbated in Study 2, as organisations were asked to offer up a group of their senior leaders for a three-day workshop with no defined or measurable organisational outcomes aside from the development their leaders would be receiving as a result of attending the training. Neither participants nor businesses were offered any incentive for participation. Each of the organisations committed to providing a venue along with catering for the three days. The Western Australian organisational development context also heightened the challenges around access to participants. Organisations in Western Australia tend to deliver a traditional approach to leadership development and prefer for workshops to be as short as possible, with most having a one-day modular approach (Day & Sin, 2009). The general approach to running leadership programs in Western Australia is to have separate modules, delivering a range of topics in one-day modules spread over six to 12 months. This development design is focused on teaching topics and techniques in modules that are short in length and do not require continuity of experience from one subject to another; nor do they require a depth of facilitation. Conversely, leader development programs require more intense self-analysis and reflection with continuity of subjects as well as uniformity and depth of facilitation (Day & Sin, 2009). This focus on developing the internal capacity of the leader is far less common in Western Australia, as many organisations are not prepared to have their leaders away from the workplace for this length of time (Day & Sin, 2009).

Research into other leader development programs with a focus on enhancing resilience or effectiveness has indicated that most programs of this nature are designed as three to five-day residential programs (Schiraldi et al., 2010). For example, The Seven Habits of Highly Effective People (Franklin Covey Organisation) runs for three days, and the Leadership Resilience Training Program (Resilience Institute) runs for five days. These are international programs and are not conducted in Western Australia.

The access issues were overcome by approaching five organisations with which the researcher had ongoing consulting relationships. Two organisations were in the middle of fairly
significant change and chose not to participate, two were committed and involved, and the third booked a date but was later forced to cancel due to operational challenges.

It is acknowledged that with field experiments there are often difficulties with achieving randomisation and access to participants (Kerlinger, 1986). The challenges of field research will always require that researchers remain adaptable to the research context and find unique ways to address research questions (Rogelberg, 2004).

In Study 2, not only were there significant challenges in accessing participants but it was also not possible to find organisations prepared to offer up a second group of leaders to serve as a control group. The omission of a control group posed some challenges to the validity of the research and the level of control (Rogelberg, 2004). In the context of not having a control group, there is the possibility that maturation and history will impact the results (Kerlinger, 1986). The lack of a control group presents challenges around control for maturation in that the pre-test may influence the subjects to react outside of the impact of the intervention (Kerlinger, 1986). The lack of a control group also opens up the possibility of history in that the longer the time between pre- and post-testing, the more opportunity for other things to play a part in the outcomes of the post-program assessment. Although the lack of a control group is a potential issue for this research, the advantage of Study 2 was that the two groups were drawn from separate industries and organisations. Therefore, it was anticipated that any historical impact during pre- and post-testing would have differential effects on the two groups due to the different contexts.

The issue of the regression effect and extraneous variables are also a factor in research that does not include a control group. There is the possibility that the pre-test scores may be higher based purely on chance and that the post-test results may be influenced by having learned about the constructs during the intervention. These challenges cannot be entirely controlled for with this type of design. However, the use of a month-long delay in the post-test and the use of boss-assessment went some way in mitigating the possible bias involved in Study 2.
It is possible that the Hawthorne effect may impact the outcomes derived from this type of research. The Hawthorne effect can be described as subjects’ responses being reactions to the fact that they are being studied rather than to a particular experimental manipulation (Mayo, 1949). The impact of this is again partially mitigated by the one-month delay in the post-program assessment of participants and the boss-assessment. There is the possibility that the workshop will have had an impact on leadership style outside of its influence on resilience (Collican, 1994). Rogelberg (2004) states that variables in a field experiment can have a stronger effect than in a laboratory experiment. It is anticipated that there will be more defined effects of the variables in the present research due to the field-based experimental design. Kerlinger (1986) observed that field experiments are suited to testing theory and answering research questions, and laboratory experiments are best suited to testing specific aspects of the theory. The respective designs of Study 1 and 2, although they present challenges, are well suited to the purpose and focus of both studies.

9.2.3 Target Population and Participants

The participants in Study 2 consisted of 27 leaders from two organisations, one in the government sector (n =12) and one in the not-for-profit sector (n = 15). Study two had a small number of participants however similar numbers have been used in other research carried out in the resilience field (Chitra & Karunanidhi, 2018; Christopher, Hunsinger, Goerling, Bowen, Rogers, Gross & Pruessner, 2018). For example, Chitra, T., & Karunanidhi, S. (2018) assessed the impact of resilience training on police officers using a similar number of participants as study 2 of the present research. While study 2 did not have a large number of participants, it was designed to support the findings for study 1, which utilised a sample of 110. Therefore, the total sample size for the present study was 137. Garbowski (2010) and Wasden (2014) utilised similar numbers of participants, and their findings support the findings of the present research. The findings from study 2 indicate what can be achieved with a well-designed intervention. However, future research is required in this area to understand the relationships more fully. Involvement by participants was based on their manager selecting them for attendance. Although they were encouraged to participate
in the program, once nominated their participation was mandatory along with their completion of the pre- and post-testing. This lack of choice may have had an adverse impact on some of the participants (Rogelberg, 2004); however, based on the researcher’s professional observation during the three-day program, participants did not display any negative impact as a result of the mandatory selection. The levels of engagement in the discussions, activities and self-reflection were of a high level for both groups. Furthermore, all the participants completed both their pre- and post-assessments.

As part of their attendance, in the week before the three-day leader resilience training, participants were required to complete a series of five online questionnaires, which were expected to take a total of approximately two hours to complete. These were sent electronically via email as a link and two reminders were sent during the week. The post-test was finalised in the same manner one month after completion of the program. The delay of one month was to assess sustained change in the behaviours of the delegates post the program. The decision to complete a one-month post-program assessment was based on the follow-up process that was used in the workshops investigated in the design process. Five out of the six programs utilised a one-month follow-up process to gain feedback on the impact of the intervention back in the workplace. Any form of training has challenges related to the decay of learning (Getha-Taylor, Fowles, Silvia & Merritt, 2015). If real change is going to be achieved with leadership development, then the changes need to be sustainable over time. Getha-Taylor, Fowles, Silvia & Merritt (2015) found that the impact of leadership development can be positive and sustainable. The present research was designed to deliver long term change in resilience which would be sustainable over time, and therefore designed with one-month delay to ensure that the training impact was lasting.

The self-assessment made use of the same five measures utilised in Study 1. Surveys were completed using Survey Monkey software. The online process allowed for effective monitoring of the completion of the pre- and post-tests and resulted in a 100 per cent response rate. The managers of each of the participants were also asked to complete an online pre- and post-assessment of the
participant’s leadership style. This boss-assessment was a diagnostic assessing their individual subordinates’ leadership style, and again the response rate was 100 per cent.

9.2.4 Organisations Involved

The government institution participating in the study was a Western Australian specialist agency with approximately 120 employees and 25 senior leaders. This organisation was established in 2009 with an independent board to guide ministers on scientifically sensitive issues. They also provide a monitoring service to ensure alignment with scientific guidance to ensure compliance with ministerial conditions. The agency is accountable to both the board and the minister. To ensure the success of the agency, it is essential that they collaborate with a range of clients and stakeholders including government agencies, industry peak bodies, customers and community organisations. The leadership group involved in the training and research included senior leaders from across all three of the divisions of the organisation (n = 12).

The second organisation involved in the study was one of Western Australia’s largest not-for-profit aged care providers, with over 1,600 employees, 500 volunteers and approximately 50 senior leaders. They offer the full continuum of aged care services from care in the home and social centres for older adults to retirement villages, affordable housing and residential aged care across Perth and regional Western Australia. The business operates geographically from Geraldton to Bunbury. The leadership group involved in the training and research was the residential unit managers who were part of the senior leadership group (n = 15) and were located across the geographic spread of the organisation. These leaders had responsibility for approximately 150–200 staff, depending on the size and location of their operation.

9.2.5 Participants and Demographics

The participants were a convenience sample of 27 leaders from the two organisations. The workshops were run separately for each organisation in January 2016 (n = 12) and March 2016 (n = 15), respectively. All participants held leadership positions in their organisations. Their managers were briefed before committing them to the program and were told that as part of the
agreement, they would be asked to complete the pre- and post-test boss-assessments. This assessment was carried out at the same time as the pre- and post-test completed by the participants.

Participants were asked to answer a small number of demographic questions at the start of the questionnaires. These demographics were not utilised in analysing the data, but they were considered important to understanding the sample (see Chapter 10).

It is important to note that the number of participants available for the study was not a factor that could be fully controlled. A sample size of 27 does have implications for the power of the research results and the generalisability of the outcomes. While there are limitations due to the small number of participants, these numbers are not unusual in studies of this nature where a quasi-experimental design is utilised in social sciences research (Kerlinger, 1986).

9.2.6 Leader Resilience Workshop

The three-day workshop was designed to align with both the transformational leadership style (Bass, 1985) and the model of leader resilience developed in Studies 1 and 2 and outlined in Chapter 4. The research and development of the workshop was covered in Chapter 7, with the structure of the workshop presented in Section 7.3. Prior to attendance, participants were issued with information on the objectives for the day and the key topics that would be covered. The objectives for the three days were for participants to:

- develop an understanding of why leader resilience is essential in the twenty-first century work environment;
- understand the requirements of leadership in today’s world;
- become familiar with the model of leader resilience;
- understand their personal resilience and identify areas for improvement;
- have an opportunity to use a range of strategies and tools designed to enhance resilience;
- have time to self-reflect and assess new ways of building their leader resilience and leadership style;
- receive feedback on resilience levels and impact on others;
• develop an enhanced understanding of self and interaction styles with others; and
• build the capacity to develop team resilience.

The style of the workshop was reflective and interactive, and included the opportunity to explore ways of enhancing resilience in a safe environment.

9.2.7 Data Analysis

SPSS version 22 and SPSS Amos version 22 were used to conduct the statistical analyses for Study 2. The design and data analysis were selected to allow for an exploration of the impact of a developmental intervention on resilience and leadership style. It also provided the opportunity to validate the results from Study 1 further. A before-after assessment of the data using this design and analysis provided insights into the change that can be achieved as a result of a three-day resilience intervention.

Descriptive and inferential statistics were used to analyse the data. The responses were checked to ensure that there were no violations of assumptions of normality, linearity or homoscedasticity. This commenced with a review of the descriptive data to assess for outliers. Study 2 was a before-and-after analysis and made use of t-tests and bivariate correlations of the relevant relationships based on the individual hypotheses.

9.3 Research Instruments in Studies 1 and 2

Both Study 1 and Study 2 made use of the same five measures. The MLQ was used as a measure of transformational and transactional leadership. The other four measures were of resilience and the underlying constructs postulated in the model of leader resilience:

• Leadership style measure—MLQ (MLQ X 5), self- and boss-assessments (Bass & Avolio, 1997);
• Resilience—Resilience Scale (Wagnild, 2009); and
• Dimension of leader resilience measures:
  o Self-concept well-being—Scales of Psychological Well-Being (Ryff, 1989);
  o Locus of control—Locus of Control (Rotter, 1966); and
• Constructive thinking—Constructive Thinking (Epstein, 2014).

In Study 1, paper versions of the tests were administered. In Study 2, they were administered online using Survey Monkey software. These measures are discussed in more detail in the following section.

9.3.1 Multifactor Leadership Questionnaire

The MLQ is one of the most widely used measures to assess leadership style in the organisational development arena. The MLQ was developed by Bass (1985) to measure transformational and transactional leadership. Bass originally designed and analysed the 73-item MLQ (Form 1) using a military sample. The MLQ (Form 1) was based on a conceptualisation of transformational leadership that included seven factors: four transformational factors (charisma, inspiration, individualised consideration and intellectual stimulation) and three transactional factors (contingent reward, management by exception and laissez-faire). Bycio et al. (1995) conducted a nested analysis of the MLQ (Form 1) to test the model using a large sample ($n = 1,376$) of members of the nursing association. They also evaluated two other models consisting of five factors and concluded that the five-factor model was more robust in measuring transformational and transactional leadership.

There has been criticism of the MLQ regarding the discriminant validity of the factors and the mixing of behaviours, impact and outcomes in a single scale (Hunt, 1991; Yukl, 1998). In response to these criticisms, the MLQ was revised and refined with an additional three underlying factors being incorporated into both the MLQ (5R) and MLQ (5X) (Bass & Avolio, 1993, 1997).

The MLQ (5X) has been validated and cross-validated using 14 samples collected by Mind Gardens (Bass & Avolio, 2000). The initial review of the MLQ included nine samples ($n = 2,154$) and showed high reliability for each of the leadership factor scales (ranging from $\alpha = .74$ to $\alpha = .94$). The MLQ was modified to incorporate the findings of the research on the MLQ (Form 10), an earlier version of the 5X. The MLQ (5X) was amended based on the first set of data and the modified 45-item survey was analysed utilising 14 studies, including the original nine from the previous analysis.
The results consistently showed an intercorrelation between inspirational leadership and charisma of between .80 and .90. The others (boss) version of the MLQ (X5) was validated using 3786 respondents in 14 independent samples with a correlation of .93 (Avolio, Bass & Jung, 1999).

The six-factor model used in the MLQ (5X) comprised three higher-order transformational factors:

- **Charisma/inspirational**—provides a sense of purpose that is energising and acts as a role model for ethical behaviour that builds identification with the leader. An example of an item is ‘I instil pride in others for being associated with me’.
- **Intellectual stimulation**—stimulates followers to question things, make improvements and solve problems. An example of an item is ‘I help others to develop their strengths’.
- **Individualised consideration**—the leader understands the needs of each follower and works to help them achieve their full potential. An example of an item is ‘I treat others as individuals rather than just as a member of a group’.

The six-factor model used in the MLQ (5X) comprised two higher-order transactional factors and one higher-order passive-avoidant factor:

- **Contingent reward**—clarifies expectations and defines outcomes of performance. An example of an item is ‘I provide others with assistance in exchange for their efforts’.
- **Active management by exception**—monitors tasks for problems and corrects these to maintain performance. An example of an item is ‘I focus attention on irregularities, mistakes, exceptions and deviations from standards’.
- **Passive-avoidant**—the leader acts after the problem has become severe and may avoid decision-making (this includes laissez-faire). An example of an item is ‘I am absent when needed’.

The MLQ (5 X) has two forms, a self-assessment and a boss-assessment. The self-assessment was utilised in Study 1, and both were used in Study 2. The boss version was used in the before-and-after measure to obtain data from participants’ direct supervisors on their view as to whether
there was a change based on the intervention. Both forms utilised the same rating scale (0 = not at all to 4 = frequently if not always) (Avolio & Bass, 1995).

The use of a higher-order model in these validation studies enhanced the discriminant validity between the higher-order factors and the second-order factors (Avolio et al., 1999). Bass and Avolio (1990) found acceptable levels of reliability with $\alpha = .77$ and evidence of acceptable levels of convergent and discriminant validity for the MLQ (5X).

The MLQ (5 X) and the full-range leadership model on which it is based have dominated the research. Although there have been criticisms levelled at both, they have been highly validated and show strong psychometric properties for use in research.

### 9.3.2 Resilience Scale

The Resilience Scale was one of the early resilience diagnostics. It was initially developed for use in the investigation of the impact of major life events on older women (Wagnild & Young, 1993). The original scale consisted of 50 items; however, after analysis this was reduced to 25 items reflecting the five characteristics that Wagnild (2009) defined as making up resilience:

- **Purpose**—a sense of one’s meaning or purpose in life. An example of an item is ‘My life has meaning’.
- **Perseverance**—the determination to keep going despite difficulties, discouragement and disappointment. An example of an item is ‘When I make plans, I follow through with them’.
- **Equanimity**—resilient people learn to avoid extreme responses and live with balance and harmony. An example of an item is ‘I usually take things in my stride’.
- **Self-reliance**—believing in yourself, with a clear understanding of your capabilities and limitations. An example of an item is ‘When I’m in a difficult situation, I can usually find my way out of it’.
- **Existential aloneness**—live with courage and conviction. An example of an item is ‘It’s okay if there are people who don’t like me’.
Response options for each item involved a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). The scale ranged from 25–175 (145+ indicating high resilience, 125–145 indicating moderate resilience, less than 120 indicating low resilience). The initial testing of the scale demonstrated high internal consistency (α = .91) and the concurrent validity was shown as moderate across the constructs of depression ($r = 0.41, p < 0.001$) and life satisfaction ($r = 0.37, p < 0.001$) (Wagnild, 2009).

The internal consistency and reliability of the resilience scale, based on a review of 12 studies, showed that the Cronbach’s alpha coefficients were at consistently acceptable levels, ranging from .72 to .94 (Wagnild, 2009). The construct validity was established using the Health Promoting Lifestyle Profile (Walker, Sechrist & Pender, 1987). The convergent correlation between the two diagnostics was high ($r = 0.62$).

**9.3.3 Dimensions of Resilience Measures**

**9.3.3.1 Self-concept Well-being Measure**

The Scales of Psychological Well-Being (Ryff, 1989) were developed to align a diagnostic with a theoretical approach to psychological well-being and the underpinnings of this essential dimension of health. This 42-item scale is measured using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree). The dimensions measured by Ryff (1989) in the original development of the scale were autonomy, environmental mastery, personal growth, purpose in life, positive relations with others and self-acceptance. An example of the items used is ‘in general, I feel I am in charge of the situation in which I live’. The Psychological Well-Being Scale showed internal consistency levels of $\alpha = .93$ and above for each of the dimensions (Ryff, 1989). Abbott et al. (2006) measured the attitudes of 1,179 women using the 42-item scale, which resulted in internal consistency levels of $\alpha = .80$.

**9.3.3.2 Locus of Control Measure**

Internal-External Locus of Control (Rotter, 1966) measures the level to which an individual has an internal or external locus of control and indicates whether people believe that their actions...
have an impact on their outcomes. Rotter’s (1966) scale is a 29-item forced-choice scale that assesses an individual’s tendency to think that situations and events are under their control. An examples of a forced-choice items is: Select the statement that you agree with most a) Children get into trouble because their parents punish them too much b) The trouble with most children nowadays is that their parents are too easy with them.

Using this measure, Rotter (1966) showed internal reliability coefficients of $\alpha = .72$ for college students. Robinson et al. (1991) showed an internal consistency coefficient of $\alpha = .70$ on a sample of 400 college students. Lefcourt (1976) noted that there are acceptable levels of convergent validity, with over 50 per cent of investigations examining locus of control using Rotter’s (1966) measure.

**9.3.3.3 Constructive Thinking Measure**

Constructive thinking is an individual’s ability to respond to external stimuli in a way that supports growth and resilience. Epstein’s (2001) 108-item Scale for Constructive Thinking uses a five-point Likert scale ($1 = $definitely false to $5 = $definitely true). An example item is ‘I believe almost all people are basically good at heart’. This diagnostic assesses the following subscales: emotional coping, behavioural coping, categorical thinking, personal superstitious thinking, naive optimism and esoteric thinking. The diagnostic used for Constructive Thinking was the global constructive thinking measure, which used 28 of the 108 questions to construct a Global Scale of Constructive Thinking. Epstein (1998) showed internal consistency results of $\alpha = .87$ for the Global Constructive Thinking Scale with a group of 124 undergraduate psychology students. Scheuer and Epstein (1992a) showed internal consistency results of $\alpha = .93$ for the global measure on a study of 281 students.
Chapter 10: Results

This chapter presents the results of the statistical analysis for Studies 1 and 2. These are presented separately, commencing with an overview of the demographics of the sample for each study. The statistics run for each of the hypotheses and the results of these are also presented.

10.1 Results for Study 1

10.1.1 Demographics

The participants in Study 1 were 110 leaders drawn from a range of organisations in Western Australia across the not-for-profit, private and public sectors. Participants were relatively evenly spread across age groups, except for the 65+ group (n = 3). Of the total number of participants, 56.36 per cent were female and 43.64 per cent were male. The majority of participants (75.5 per cent) had completed either an undergraduate degree (34.6 per cent) or a postgraduate degree (40.9 per cent) (see Table 10.1).

A large percentage of participants classified themselves as either middle or senior managers, and most participants were working in medium to large organisations. Well over half of the participants had previously attended experiential leadership training.

10.1.2 Sample Characteristics

Of the 112 original participants who returned the research diagnostics and demographic questions, two participants were excluded due to incomplete data. The remaining 110 participants fully completed the biographical data and questionnaires.

A review of the descriptive data indicated that there were no outliers in the responses and that the data was normally distributed. Shapiro–Wilk test and visual inspection of histograms and normal Q-Q plots for resilience, transformational leadership, locus of control, self-concept well-being and constructive thinking indicated that they were normally distributed (Razali & Wah, 2011).
Table 10.1

Sample Distribution: Age, Gender, Educational Attainment, Managerial Level, Previous Leadership Training and Organisational Size

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>n (%)</th>
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<tbody>
<tr>
<td>20–35</td>
<td>28 (25.5)</td>
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<tr>
<td>35–45</td>
<td>20 (18.2)</td>
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<tr>
<td>45–55</td>
<td>35 (31.8)</td>
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<tr>
<td>55–65</td>
<td>24 (21.8)</td>
</tr>
<tr>
<td>65+</td>
<td>3 (2.7)</td>
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<table>
<thead>
<tr>
<th>Gender</th>
<th>n (%)</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>48 (43.6)</td>
</tr>
<tr>
<td>Female</td>
<td>62 (56.4)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>17 (15.5)</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>38 (34.6)</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>45 (40.9)</td>
</tr>
<tr>
<td>Postgraduate research</td>
<td>10 (9.0)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Managerial level</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>15 (13.6)</td>
</tr>
<tr>
<td>Senior management</td>
<td>40 (36.4)</td>
</tr>
<tr>
<td>Middle management</td>
<td>50 (45.5)</td>
</tr>
<tr>
<td>Supervisory</td>
<td>5 (4.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous leadership training</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential</td>
<td>68 (61.8)</td>
</tr>
<tr>
<td>Academic</td>
<td>42 (38.2)</td>
</tr>
</tbody>
</table>
The skewness and kurtosis values for resilience, self-concept well-being, locus of control, constructive thinking and transformational leadership in Table 10.2 did not differ significantly from normality; therefore, it can be assumed that the data is approximately normally distributed in terms of skewness and kurtosis (Gravetter & Wallnau, 2014). The Q-Q plot for all dimensions also indicates that these values fell within a normal distribution (see Figures A.1–A.6 in Appendix A).

Table 10.2

<table>
<thead>
<tr>
<th>Size of participant’s organisation (no. of employees)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–50</td>
<td>2 (1.9)</td>
</tr>
<tr>
<td>50–100</td>
<td>5 (4.6)</td>
</tr>
<tr>
<td>100–499</td>
<td>53 (48.0)</td>
</tr>
<tr>
<td>500+</td>
<td>50 (45.5)</td>
</tr>
</tbody>
</table>

Note. n = 110.

A Cronbach’s alpha was calculated for each of the diagnostics to assess their reliability for this population. For the 25-question Resilience Scale, \( \alpha = .92 \) (see Table B.17 in Appendix A for the results for each of the five scales of the Resilience Measure). For the 45-item MLQ, \( \alpha = .80 \) (see Table B.18 in Appendix A for the results for each of the 10 scales of the MLQ). For the 40-item
Psychological Well-Being Scale, $\alpha = .93$. For the 29-item Locus of Control, $\alpha = .63$. For the 28 Item Global Constructive Thinking Scale, $\alpha = .92$. All values are within the range of good to excellent.

**10.1.3 Results for Hypothesis 1**

Hypothesis 1 stated that significant positive relationships exist between resilience and the

Table 10.3

_Descriptive statistics for Hypothesis 1_

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>102.0</td>
<td>167.0</td>
<td>140.29</td>
<td>15.71</td>
</tr>
<tr>
<td>Self-concept well-being</td>
<td>125.0</td>
<td>227.0</td>
<td>191.43</td>
<td>24.03</td>
</tr>
<tr>
<td>Locus of control</td>
<td>7.0</td>
<td>21.0</td>
<td>14.89</td>
<td>3.29</td>
</tr>
<tr>
<td>Constructive thinking</td>
<td>68.0</td>
<td>133.0</td>
<td>107.57</td>
<td>15.22</td>
</tr>
</tbody>
</table>

*Note. n = 110.*

postulated dimensions self-concept well-being, internal locus of control and constructive thinking (see Section 8.2.1.2). Descriptive statistics for testing of Hypothesis 1 are in Table 10.3.

**10.1.3.1 Correlation Coefficient Analysis**

Preliminary analysis indicates that there were no violations of assumptions of normality, linearity or homoscedasticity for Hypothesis 1 (see Figures A.7–A.9 in Appendix A). Pearson product-moment correlation coefficients were used to evaluate Hypothesis 1 for each of the dimensions (see Table 10.4). The results indicate that the subscales were correlated within and across the instruments used to measure self-concept well-being, locus of control and constructive thinking. The results show a positive correlation between resilience and the dimensions self-concept well-being, locus of control and constructive thinking. Given these results, there is significant evidence to conclude that a strong positive relationship exists between resilience and each of the dimensions defined in the model of resilience.
Table 10.4

*Pearson’s r – bivariate correlations between resilience and dimensions of resilience*

<table>
<thead>
<tr>
<th>Dimension of resilience</th>
<th>Resilience</th>
<th>Self-concept well-being</th>
<th>Locus of control</th>
<th>Constructive thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>(.92)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-concept well-being</td>
<td>.61**</td>
<td>(.93)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locus of control</td>
<td>.55**</td>
<td>.55**</td>
<td>(.63)</td>
<td></td>
</tr>
<tr>
<td>Constructive thinking</td>
<td>.68**</td>
<td>.73**</td>
<td>.59**</td>
<td>(.92)</td>
</tr>
</tbody>
</table>

Note. **p < .01

(Internal consistency reliabilities are reported on the diagonal of the table)

**10.1.3.2 Regression Analysis**

The second analysis included an ordinary least squares multiple regression analysis to assess the relationship between the three predictor variables (self-concept well-being, locus of control and constructive thinking) and the dependent variable (resilience). The results indicate that 51 per cent ($R^2 = .51$) of the variance in resilience was explained by the three predictor variables. A review of the results, including the P-P plot (see Figure A.21 in Appendix A) and the Mahul (Min = 0.04, Max = 8.94) and Cook (Min = 0.00, Max = 0.07) distance analyses, found no significant outliers in the data and that the data fit the model.

The results indicated that self-concept well-being, locus of control and constructive thinking predicted resilience ($R^2 = .51$). An analysis of variance carried out on the F-test results revealed a significance of 37.01 at the .000 level, indicating that the predictor variables do a good job of predicting resilience. The differences in the standardised beta values of the predictor variables indicated that there may have been some level of overlap between these predictor variables. The standardised beta value was highest for constructive thinking (.43 significant at the .001 level), with a locus of control of .20 significance at the .05 level, indicating that they both make an independent contribution to resilience (see Table 10.5). However, the self-concept well-being standardised beta
value was .19 and not significant, indicating that there may be a pathway between the independent variables and the outcome variable that influenced significance (see Table 10.5). The correlation analysis previously described (in Section 10.1.3.1) indicated the significance of all three variables in relation to resilience.

Table 10.5

*Multiple regression analysis of the relationship between resilience and self-concept well-being, locus of control and constructive thinking*

<table>
<thead>
<tr>
<th></th>
<th>Resilience</th>
<th>Standardised beta</th>
<th>(95% CI for B lower)</th>
<th>(95% CI for B higher)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-concept well-being</td>
<td>.19</td>
<td>(.01)</td>
<td>(.26)</td>
<td></td>
</tr>
<tr>
<td>Locus of control</td>
<td>.20*</td>
<td>(.13)</td>
<td>(1.76)</td>
<td></td>
</tr>
<tr>
<td>Constructive thinking</td>
<td>.43***</td>
<td>(.22)</td>
<td>(.65)</td>
<td></td>
</tr>
</tbody>
</table>

*Note. n = 110. * p < .05, *** p < .001.*

**10.1.4 Results for Hypothesis 2**

Hypothesis 2(a) stated that there was a significant positive relationship between resilience and a transformational leadership style. Hypothesis 2(b) stated that there was a negative relationship between resilience and a transactional leadership style (see Section 8.2.1.2). The descriptive statistics for testing Hypotheses 2(a) and 2(b) are presented in Table 10.6.

Table 10.6

*Descriptive statistics for Hypotheses 2(a) and 2(b)*

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>140.29 (15.71)</td>
<td>102–167</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>2.95 (.46)</td>
<td>1.75–3.80</td>
</tr>
</tbody>
</table>
10.1.4.1 Correlational Coefficient Analysis

The Pearson product-moment correlation coefficient was used to evaluate Hypothesis 2(a) (see Table 10.7). The results indicated a significant positive relationship between resilience and transformational leadership. The preliminary analysis showed that there were no significant violations of assumptions of normality, linearity or homoscedasticity (see Figure A.22 in Appendix A). The results indicated a positive relationship between resilience and transformational leadership.

The Pearson product-moment correlation coefficient was also used to evaluate Hypothesis 2(b). The results showed no significant relationship between resilience and transactional leadership. The G-Graph also showed no evidence of a linear relationship between resilience and transactional leadership (see Figure A.23 in Appendix A). These results indicate that there was no significant relationship between resilience and transactional leadership.

Table 10.7

*Pearson’s r – bivariate correlations between resilience and transformational and transactional leadership*

<table>
<thead>
<tr>
<th></th>
<th>Resilience</th>
<th>Transformational leadership</th>
<th>Transactional leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>(.92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>.66***</td>
<td>(.80)</td>
<td></td>
</tr>
<tr>
<td>Transactional leadership</td>
<td>.12</td>
<td>.37**</td>
<td>(.80)</td>
</tr>
</tbody>
</table>

*Note.*** p < .001.*
To further investigate the relationships between resilience and transformational leadership, Pearson product-moment correlation coefficients were again used. This test evaluated the relationship between the transformational leadership scale, the MLQ and the subscales of the Resilience Scale. The results of this analysis, which are shown in Table 10.8, revealed the levels of significance of each of the individual scales.

### 10.1.4.2 Regression Analysis

A regression analysis was conducted to further assess the relationship between the independent variable (resilience) and the dependent variable (transformational leadership). The results indicate that 43 per cent ($R^2 = 0.44, p < .001$) of the variance in transformational leadership was explained by resilience. The regression analysis revealed that there was a strong positive relationship between resilience and transformational leadership, indicating that as resilience increases, transformational leadership capability increases. The $R$-squared of .44 indicates a good
fit for the model defined in the present research, and this aligns with results reported by other researchers investigating the impact of resilience on leadership (Garbowski, 2010). While higher $R$-squared values are useful, they do not identify how far the data points are from the regression line, and they are only valuable for linear models. The present research made use of structural equation modelling to extend the understanding of the data further.

### 10.2 Structural Equation Model of the Research Relationships

A structural equation model was constructed to evaluate the hypothesised relationships between the constructs for Study 1. The model was designed to assess the relationships between leader resilience and the dimensions self-concept well-being, locus of control and constructive thinking, as well as the links between each of these constructs and transformational and transactional leadership (see Table 10.12 for the best fit model for the data).

The model showed a good fit for the data; the model chi-square was $\chi^2 = 3.86$ ($p = .15$, $\chi^2$/DF = 1.93), indicating that the null hypothesis was rejected. The Root Mean Square Error of Approximation was .09, lower than the critical value of .10, indicating a good fit for the model. The Normed Fit Index was .99, the Tucker Lewis Index was .96, and the Comparative Fit Index was .98, all of which were higher than the critical value of .95, indicating a good fit for the model. The factor loadings were good, indicating that locus of control, constructive thinking and self-concept well-being significantly predicted resilience. Constructive thinking and locus of control were fully mediated by resilience, while self-concept well-being was not. The results also showed that resilience significantly predicted transformational leadership. The model outlined the individual relationship between the dimensions (self-concept well-being, locus of control and constructive thinking), resilience and transformational leadership and confirmed the hypothesised relationship. The descriptive statistics and correlations for the SEM are detailed in Table 10.9.
Table 10.9

Descriptive statistics and correlations for structural equation model

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>TFL</th>
<th>TAL</th>
<th>R</th>
<th>SCWB</th>
<th>LoC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFL</td>
<td>2.95</td>
<td>0.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAL</td>
<td>2.31</td>
<td>0.55</td>
<td>.37**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>140.29</td>
<td>15.71</td>
<td>.66**</td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCWB</td>
<td>191.43</td>
<td>24.03</td>
<td>.62**</td>
<td>0.07</td>
<td>.61*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LoC</td>
<td>14.89</td>
<td>3.29</td>
<td>.49**</td>
<td>−0.09</td>
<td>.55**</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>CT</td>
<td>107.57</td>
<td>15.22</td>
<td>.50**</td>
<td>−0.10</td>
<td>.68**</td>
<td>.73**</td>
<td>.59**</td>
</tr>
</tbody>
</table>

Note. \( n = 110 \).
TFL = transformational leadership, TAL = transactional leadership, R = resilience, SCWB = self-concept well-being, LoC = locus of control, CT = constructive thinking.
* \( p < .05 \), ** \( p < .01 \).

10.2.1 Mediation Results

Each of the dimensions and their relationships to leader resilience and transformational leadership were examined to more clearly understand the mediation effects. The results indicated that self-concept well-being has a stronger direct link to transformational leadership than locus of control or constructive thinking and that resilience was less of a mediator in this relationship (see Figures 10.1–10.3).

![Figure 10.1](image.png)

Figure 10.1. Mediation-standardized regression coefficient for the relationship between self-concept well-being and transformational leadership as mediated by resilience. * \( p < .05 \), ** \( p < .01 \).
10.2.2 The Structural Equation Model of Relationships

The structural equation models of relationships are shown in Figures 10.4–10.6.
Figure 10.4. Structural equation model of leaders’ resilience and its relationship to transformational leadership. **p < .01, ***p < .001.

Figure 10.5. Structural equation model of leaders’ resilience and the relationship with transactional leadership. **p < .01, ***p < .001.
10.3 Results for Study 2

The aim of Study 2 was to establish whether leader resilience could be enhanced through a three-day workshop-based intervention and to assess whether a change in leader resilience could be used to predict a change in leadership style (see Section 9.2.1). The impact of a change in leader resilience was investigated through pre- and post-measurements of resilience and the dimensions of resilience defined in the leader resilience model. Leadership style was measured before and after the intervention using self- and boss-assessments. The number of participants in Study 2 resulted in some statistical challenges. Each of these issues is described below.

10.3.1 Demographics

The 27 participants were asked to complete a demographic survey at the commencement of the online survey, one week before the three-day workshop. The participants in this group were predominantly female and ranged in age from 45–55 years (see Table 10.10).
### Table 2.10

Sample distribution: age, gender, educational attainment and previous leadership training

<table>
<thead>
<tr>
<th>Age groups (years)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20–35</td>
<td>2 (7.41)</td>
</tr>
<tr>
<td>35–45</td>
<td>6 (22.22)</td>
</tr>
<tr>
<td>45–55</td>
<td>12 (44.44)</td>
</tr>
<tr>
<td>55–65</td>
<td>7 (25.93)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>9 (33.33)</td>
</tr>
<tr>
<td>Female</td>
<td>18 (66.66)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School leaver qualification</td>
<td>4 (14.82)</td>
</tr>
<tr>
<td>Undergraduate qualification</td>
<td>12 (44.44)</td>
</tr>
<tr>
<td>Postgraduate qualification</td>
<td>10 (37.04)</td>
</tr>
<tr>
<td>Postgraduate research qualification</td>
<td>1 (3.70)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous leadership training</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential</td>
<td>15 (55.56)</td>
</tr>
<tr>
<td>Academic</td>
<td>12 (44.44)</td>
</tr>
</tbody>
</table>

*Note. n = 27.*

### 10.3.2 Results for Hypothesis 3

Hypothesis 3(a) stated that the intervention would lead to a significant positive change in leader resilience, while Hypothesis 3(b) stated that the intervention would lead to a significant positive change in the dimensions of leader resilience (see Section 8.2.2.2). The descriptive statistics used to test Hypotheses 3(a) and 3(b) are presented in Table 10.11.
Table 10.11

Descriptive statistics: variable description (pre- and post-test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Resilience</td>
<td>142.19</td>
<td>11.07</td>
</tr>
<tr>
<td>Self-concept well-being</td>
<td>191.43</td>
<td>20.60</td>
</tr>
<tr>
<td>Locus of control</td>
<td>14.89</td>
<td>2.90</td>
</tr>
<tr>
<td>Constructive thinking</td>
<td>107.57</td>
<td>13.40</td>
</tr>
</tbody>
</table>

Note. n = 27.

10.3.2.1 Change in Resilience

A one-tailed paired-sample *t*-test revealed that the post-intervention resilience scores were significantly higher than the pre-intervention scores (see Table 10.12). These results support Hypothesis 3(a).

Table 10.12

Paired *t*-test of intervention effect on leader resilience

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean difference (SD)</th>
<th><em>t</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>M</em></td>
<td><em>SD</em></td>
<td><em>M</em></td>
<td><em>SD</em></td>
</tr>
<tr>
<td>Resilience</td>
<td>142.19</td>
<td>11.07</td>
<td>156.50</td>
<td>11.03</td>
</tr>
</tbody>
</table>

Note. n = 27.

***p < .001.

10.3.2.2 Change in Dimensions of Resilience

A one-tailed paired-sample *t*-test revealed that the self-assessed scores post-intervention were significantly higher than the corresponding pre-intervention scores for each of the dimensions of resilience (see Table 10.13). These results indicate that the developmental intervention resulted in a significant positive enhancement in the dimensions of resilience.
Table 10.13

*Paired t-test of intervention effect on self-assessed dimensions of resilience*

<table>
<thead>
<tr>
<th>Dimension of resilience</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean difference (SD)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>D</td>
<td>Mean</td>
<td>D</td>
</tr>
<tr>
<td>Self-concept well-being</td>
<td>192.92</td>
<td>20.62</td>
<td>211.88</td>
<td>17.81</td>
</tr>
<tr>
<td>Locus of control</td>
<td>14.27</td>
<td>2.99</td>
<td>17.62</td>
<td>2.82</td>
</tr>
<tr>
<td>Constructive thinking</td>
<td>106.81</td>
<td>13.43</td>
<td>115.92</td>
<td>9.84</td>
</tr>
</tbody>
</table>

*Note. n = 27.*

**p < .01, ***p < .001.

10.3.3 Results for Hypothesis 4

Hypothesis 4(a) stated that developing leaders’ resilience would have a significant positive impact on self-assessed and boss-assessed transformational leadership scores. Hypothesis 4(b) stated that developing leader resilience would have a negative impact on self-assessed and boss-assessed transactional leadership scores. Hypothesis 4(c) stated that there would be a positive correlation between self-assessed and boss-assessed scores of transformational and transactional leadership both pre- and post-intervention (see Section 8.2.2.2.). The descriptive statistics used to test Hypotheses 4(a), 4(b) and 4(c) are presented in Table 10.14.

Table 10.14

*Descriptive statistics: self- and boss-assessment (pre- and post-test)*

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-assessed TFL</td>
<td>2.91</td>
<td>.34</td>
</tr>
<tr>
<td>Boss-assessed TFL</td>
<td>3.44</td>
<td>.64</td>
</tr>
<tr>
<td>Self-assessed TAL</td>
<td>2.25</td>
<td>.51</td>
</tr>
<tr>
<td>Boss-assessed TAL</td>
<td>3.91</td>
<td>.52</td>
</tr>
</tbody>
</table>

*Note. n = 27.*

TFL = transformational leadership, TAL = transactional leadership.
10.3.3.1 Assessment of Change in Leadership Style

A one-tailed paired-sample t-test revealed that self-assessed transformational scores post-intervention were significantly higher than pre-intervention scores (see Table 10.15). These results indicate that the developmental intervention resulted in a significant positive enhancement of self-assessed transformational leadership. A one-tailed paired-sample t-test revealed that the post-intervention boss-assessed transformational scores were significantly higher than the pre-intervention scores, indicating that the developmental intervention resulted in a significant positive enhancement of boss-assessed transformational leadership.

A one-tailed paired-sample t-test revealed that self-assessed transactional scores post-intervention were not significantly higher than pre-intervention scores. These results indicate that the developmental intervention did not result in a significant change in transactional leadership. A one-tailed paired-sample t-test revealed that boss-assessed transactional mean scores post-intervention were lower than pre-intervention scores. However, these results were not significant. These results indicate that the developmental intervention did not result in a significant change in boss-assessed transactional leadership.

Table 10.15
Paired t-test of intervention effect on self- and boss-assessed transformational and transactional leadership

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean difference (SD)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-assessed TFL</td>
<td>2.91</td>
<td>.34</td>
<td>3.41</td>
<td>.44</td>
</tr>
<tr>
<td>Self-assessed TAL</td>
<td>2.25</td>
<td>.51</td>
<td>2.23</td>
<td>.55</td>
</tr>
<tr>
<td>Boss-assessed TFL</td>
<td>3.44</td>
<td>.64</td>
<td>3.89</td>
<td>.49</td>
</tr>
<tr>
<td>Boss-assessed TAL</td>
<td>3.91</td>
<td>.52</td>
<td>2.95</td>
<td>.59</td>
</tr>
</tbody>
</table>

Note. n = 27.
TFL = transformational leadership, TAL = transactional leadership.

***p < .001.
10.3.3.2 Correlation between Self- and Boss-Assessment Change Scores

The Pearson product-moment correlation coefficient was used to evaluate whether there was a correlation between self-assessed and boss-assessed scores of change in transformational and transactional leadership (see Table 10.16). Preliminary analysis showed that there were no violations in the assumptions of normality, linearity or homoscedasticity. There was significant evidence to conclude that there was a strong positive relationship between self-assessed and boss-assessed scores of change in transformational leadership.

Table 10.16

Correlation matrix between self- and boss-assessed change in transformational leadership and transactional leadership

<table>
<thead>
<tr>
<th></th>
<th>Self-assessed TFL</th>
<th>Boss-assessed TFL</th>
<th>Boss-assessed TAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-assessed TFL</td>
<td>.41*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boss-assessed TFL</td>
<td>.04</td>
<td>.47*</td>
<td></td>
</tr>
<tr>
<td>Boss-assessed TAL</td>
<td></td>
<td></td>
<td>.30*</td>
</tr>
<tr>
<td>Self-assessed TAL</td>
<td>−.31</td>
<td>−.24</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05
Chapter 11: Discussion

The previous chapter presented the findings for Study 1 and 2. This chapter discusses these results, their implications for leaders’ organisations and leadership development, and the limitations of Studies 1 and 2. Recommendations for further research to enhance our understanding of the impact of malleable dispositional attributes on leadership are also proposed.

11.1 Unique Aspects of the Research: An Organisational Model of Resilience and Resilience as a Mediator

Two key aspects of Studies 1 and 2 define this thesis as unique in the organisational field. Firstly, in Study 1 a model of resilience was defined within the organisational setting. Previous research has relied on existing models and definitions drawn from research on resilience in the field of clinical psychology (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). Defining a model of leader resilience will allow for more robust debate in the field of organisational psychology on the key aspects of resilience that enhance success in a business setting. This also offers the opportunity for diagnostics that are specific to the leadership domain to be developed.

The second unique aspect of the present research is the definition of resilience as a mediator of the dimensions’ effect on transformational leadership. Research to date has shown a clear link between a range of individual dimensions of resilience and their impact on transformational leadership (Campbell, 1990; Rotter, 1966; Epstein, 2014). Research also suggests that identifying the underlying dimensions of a higher-order construct enhances the levels of significance in the relevant research (Judge et al., 1998). Studies 1 and 2 in the present thesis defined resilience as a mediator of the three dimensions—self-concept well-being, locus of control and constructive thinking. The structural equation model that formed the research framework identified three dimensions mediated by the higher-order construct of resilience. These two unique aspects offer an
opportunity to further explore resilience and the dimensions thereof in an organisational and leadership context.

The model of resilience developed and validated in this study while providing insights into the internal capacity of leaders does not conclusively provide an assessment of leader resilience. The results indicate that there is an opportunity to explore a two-factor model incorporating locus of control and constructive thinking. A two-factor model may better align with results found which show stronger correlations for these two dimensions and less strong correlations for self-concept well-being. There is also a possibility that a self-concept well-being measure developed in an organisational context may further provide more explicit validation of the model defined in this research. Ryff's (1989) psychological well-being measure may not have fully measured self-concept well-being, and as a result, the outcomes achieved may not be supported by further research using a different diagnostic. The model developed in the present research provides an opportunity for future research to establish a leadership-based diagnostic of resilience. There is also an opportunity to review the focus of development for leaders based on their demonstrated levels of resilience. If an individual has low levels of leader resilience, then the initial focus of development should be on developing their intra-personal leadership.

11.2 Study 1: Discussion and Implications

11.2.1 Discussion

Study 1 proposed and statistically evaluated a model of leader resilience that defined the key dimensions of resilience in an organisational setting. A further aim was to investigate and confirm the proposed relationship between leader resilience and leadership style. The results of the data analysis support the proposed model of leader resilience and its articulation of the dimensions of resilience in an organisational context. The data also support the proposed relationship between leader resilience and leadership style.

The data for Study 1 was obtained from research subjects ($n = 110$) in leadership roles across Western Australia. The participants completed a series of questionnaires to ascertain their levels of
resilience, self-concept well-being, locus of control, constructive thinking and leadership style. Previous research in this domain indicated that there was likely to be a relationship between resilience and the dimensions of resilience (Gruber-Baldini, Ye, Anderson & Shulman, 2009). Meta-analyses have revealed relationships between resilience and a range of constructs, including self-efficacy, self-esteem, self-concept, positive affect, optimism, locus of control, effective mental processing and social support (Lamp, 2014; Lee et al., 2013). SEM completed for Study 1 indicated a good fit for the data, providing support for the proposed model of leader resilience with the dimensions of resilience (self-concept well-being, internal locus of control and constructive thinking). SEM also confirmed the hypothesised relationships between leader resilience and leadership style, indicating that leader resilience significantly predicted a transformational style and did not significantly predict a transactional style of leadership. The endogenous variable, leadership resilience, significantly mediated the relationships between the dimensions and transformational leadership, except for self-concept well-being, which was only partially mediated by leader resilience.

The relationships between the variables and the directional correlations being studied were confirmed in the structural equation model. However, there are limitations in the present research, as a sample of 200 would have been preferable for statistical analysis using SEM to produce results with acceptable levels of confidence (Boomsma, 1982). The sample size of 110 used in Study 1 was the absolute minimum sample size, which limits the degree of confidence in the results. Although 200 is usually considered to be a more statistically valid sample size, there are differing views on this. Kline (2016) suggested that the ratio of sample size to estimated parameters should be 20:1; however, he also noted that a more realistic sample size may be 10:1. Taking a 10:1 ratio, the sample size for Study 1 would be adequate to the number of parameters used in the SEM (six). There is obviously an opportunity to extend this research by using larger sample sizes to enhance the confidence levels.
Hypothesis 1 stated that there would be a significant positive relationship between resilience and the postulated dimensions self-concept well-being, internal locus of control and constructive thinking. (see Section 8.2.1.2). As discussed in Chapter 4 and based on a multidisciplinary review of the previous research, it was hypothesised that self-concept well-being, internal locus of control and constructive thinking are the dimensions of leader resilience in an organisational context (Garmezy, 1991; Keyes, 2002; Rutter, 1999; Wagnild, 2009). These informed the development of the model of leader resilience and supported the identification of the dimensions of resilience. The first group of constructs aligned with resilience were those that investigated aspects of the self; the second group of constructs focused on the human capacity to assess control; and the third looked at the ability of the individual to cognitively process information (Rutter, 1999; Wagnild, 2009).

Previous research on the first group of constructs includes studies on self-concept, personal clarity, self-acceptance, self-efficacy, self-esteem, purpose, perseverance, equanimity, self-reliance and psychological well-being (Tharenou, 1979; Wells & Marwell, 1976). Studies on these constructs have shown that when the ‘self’ is working effectively and functioning well within a range of contexts, resilience is enhanced (Markus & Wurf, 1987). In the development of the proposed model of leader resilience, self-concept well-being was identified as a dimension of resilience (Campbell, 1990; Ryff, 1989). The results from Study 1 provide support for the proposed model of leader resilience, indicating that self-concept well-being was significantly correlated with resilience. However, when combined with the other dimensions, self-concept well-being did not show a significant beta value, indicating that there may have been an overlap between this dimension and the other dimensions of resilience. The results may also indicate that self-concept well-being is an outcome of resilience and mediates the relationship. Further research would be required to understand the relationships more clearly. The findings related to self-concept well-being may be due to the use of Ryff’s (1989) scale. The model articulated in the present study focuses on the intra-personal aspect of leader resilience. Ryff’s (1998) scale of psychological well-being, includes a positive relations sub-scale which is more associated with the inter-personal aspects of leadership.
This subscale if removed, may have provided a different result. Ryff’s (1998) scale is also not explicitly designed to measure the construct self-concept well-being, and there may be other measures that could have potentially achieved different results. Constructs such as self-concept clarity, in contrast to measures such as that developed by Campbell, Trapnell, Heine, Katz, Lavallee and Lehman (1996) may have more fully explored the construct of self-concept well-being.

Self-concept well-being also showed a strong correlation with transformational leadership, indicating that resilience may not have as significant a mediating effect on this dimension as locus of control and constructive thinking. Based on the results from Study 1, it could be suggested that locus of control and constructive thinking have a greater direct impact on resilience, while self-concept well-being has a direct impact on transformational leadership. It can also be inferred that the strength of relationships between the three dimensions, shown in their intercorrelations, affects the strength of the relationship between self-concept well-being and resilience. Certainly, from the perspective of the individual dimensions, there are clear links that include similarities of conceptualisation and measures. Some of the questions used in the three diagnostics are very similar, which may have implications for these results. The relationship between the constructs is evidenced in data in the correlations between the three dimensions. Constructive thinking and self-concept well-being were strongly correlated. The results also indicated that self-concept well-being was not entirely mediated by the endogenous variable resilience. These results suggest that this construct has a more direct impact on transformational leadership than the other constructs, and that resilience mediates it to a lesser extent than it does the other dimensions. It is possible that these results may indicate that self-concept well-being is more closely aligned with inter-personal leadership than it is with intra-personal leadership. Epstein (2014) indicated that when an individual has effective constructive thinking, this is likely to result in effective emotional management. It is possible that constructive thinking and locus of control are the intra-personal dimensions involved in the transformational leadership model, while self-concept well-being is the dimension of inter-personal leadership assessed in the model. Therefore, the results may indicate the possibility of a two-factor
model of leader resilience. Further research is required to clarify these relationships and define the differential effect of the constructs on resilience and transformational leadership.

The second group of constructs associated with resilience were defined under the broad area of the ability to assess control. Previous research has shown that a key aspect of altering resilience levels is the belief that actions have a positive impact on outcomes achieved (Lachman & Firth, 2004). Conversely, if individuals believe that they are at the mercy of the external world, they will become passive in their reactions and will not attempt to take actions to support resilience (Lachman & Firth, 2004). Study 1 made use of the construct of locus of control (Rotter, 1966) as a dimension of resilience. Previous research has shown significant positive correlations between locus of control and resilience (Chorpita & Barlow, 1998; Hart et al., 1997). For example, an internal locus of control has been shown to indicate higher long-term resilience levels (Glass & Singer, 1972; Gore & Rotter, 1963; Seeman, 1963). The results of Study 1 showed support for these findings, indicating that an internal locus of control was significantly correlated with resilience. When including the other dimensions, internal locus of control remained a significant predictor of resilience.

The third group of constructs, defined as being related to resilience, focused on healthy cognition and mental processing (Epstein & Meier, 1989; Rutter, 1999). Study 1 described the concept of constructive thinking as a dimension of resilience that defines the cognitive processing element of an individual’s capacity (Epstein, 2014). Constructive thinking has been shown to have positive correlations with emotional coping and resilience (Epstein & Meier, 1989; Erez & Judge, 2001). The findings from Study 1 reiterate these relationships. Constructive thinking showed a statistically significant correlation with resilience. The relationship between resilience and constructive thinking had the highest beta result of the three dimensions, indicating that it makes a stronger independent contribution to leader resilience than the other two dimensions. Constructive thinking is a relatively new area of research and offers interesting insights into leadership and leadership capability. With such a significant relationship between leader resilience and constructive thinking, there is an opportunity to investigate whether a focus on building constructive thinking in
leaders may independently bring about a positive change in resilience. Further research into this would provide greater clarity on the impact of constructive thinking and the other dimensions.

Hypothesis 2(a) stated that there would be a significant positive relationship between resilience and a transformational leadership style and Hypothesis 2(b) stated that there would be a negative relationship between resilience and transactional leadership style (see Section 8.2.1.2). Previous research has shown that enhanced levels of resilience enable people to deliver a transformational leadership style without any significant impact on transactional leadership style (Garbowski, 2010; Offutt, 2011; Sylvester, 2009; Wasden, 2014). The results from Study 1, particularly the SEM results, support previous findings that resilience is significantly correlated with transformational leadership. The regression analysis also indicated the significance of the relationship between resilience and transformational leadership. The results did not confirm the hypothesised relationships between resilience and transactional leadership, with no significant association being found between these constructs. The present research investigated the relationship with transactional leadership without an assessment of the subdimensions of this style. Future research into the relationships between resilience and transactional leadership would benefit from a more detailed analysis of the subdimensions of this style of leadership.

The scales for resilience and transformational leadership were also validated and significant correlations were found between the majority of the scales. These correlations indicate that the dimensions of resilience and transformational leadership are strongly associated. The two correlations that did not show significance were intellectual stimulation (transformational leadership) and equanimity (resilience), and individual consideration (transformational leadership) and existential aloneness (resilience). This lack of significant correlations indicates that there may have been some dimensions of the measure of resilience that were not as strongly associated with these aspects of leadership style.
11.2.2 Implications

Study 1 makes a significant contribution to the research and offers interesting opportunities for those involved in organisational leadership. The first purpose of Study 1 was to add depth and clarity to the debate on the malleable dispositional attribute of resilience in an organisational setting. With only a small number of studies focused on leader resilience, Study 1 in the present thesis provides an important contribution to these discussions (Garbowski, 2010; Offutt, 2011; Sylvester, 2009). The outcome of Study 1 was a proposed and validated model of leader resilience that describes resilience in an organisational setting. The majority of the extant research on resilience has been conducted in the field of clinical psychology: There have been no previous attempts to define a model of resilience from a leadership and organisational perspective (Garbowski, 2010; Offutt, 2011). The proposed model was based on a multidisciplinary review of resilience and aligned with a well-established model of leadership (Bass, 1985). This model of resilience provides an exciting opportunity for enhancing outcomes in organisations because it develops resilience levels by focusing on their dimensions. With the strength of the established relationships, it is possible for practitioners of organisational psychology to enhance developmental practices. Based on the model, there is an opportunity to develop a measure of leader resilience in an organisational setting that can be used as a measurement tool for selection and succession decisions, developmental strategies and leadership competency management. The development of a leader resilience diagnostic will need to take into account the learning from this research. Firstly, it would be interesting to explore the possibility of a two-factor model in the development of a measure. There is also an opportunity to explore further self-concept well-being measures that align with the present research and may offer exciting enhancements in understanding the relationship with resilience. There is also the opportunity to explore further at an item level looking at individual questions with the highest correlations as well as those that more accurately reflect aspects of resilience. It is anticipated that this will prompt further discussion and research on this essential malleable dispositional attribute and further improve our understanding of individual differences in the leadership space.
The second purpose of Study 1 was to explore the relationship between leader resilience and leadership style. These results have assisted in broadening the leadership debate to focus on attributes that enhance the ability of a leader to utilise a transformational leadership style, rather than focusing on more traditional approaches to understanding leadership. Most previously published leadership research has concentrated on the inter-personal aspect of leadership, looking at leadership style and the outcomes of different styles (Hetland et al., 2008). Study 1 in the present thesis has focused on a new and evolving area of research, looking at the impact of malleable dispositional attributes on leadership capability. A focus on the intra-personal aspect of leadership is in contrast to the inter-personal emphasis of most of the research to date.

The results of Study 1 clearly indicate a significant positive relationship between resilience and transformational leadership. There has been ongoing concern about the dearth of competent leadership around the world, and it is imperative that this trend be changed (Howard & Wellins, 2009). The results of Study 1 suggest that organisations need to shift their focus from traditional leadership development to a broader focus that includes leader development, which is focused on enhancing individual capacity and resilience, on addressing the global dearth of competent leadership. This change of focus also requires a change in all aspects of leadership in organisations, including recruitment, measurement, promotion and development. The present research has indicated that resilience and transformational leadership can be shifted with a resilience based intervention. More research with bigger samples is needed to validate this shift and links are required to identify the impact on leadership outcomes. This is a significant shift in focus for many organisations that still focus on developmental practices aligned with organisational leadership rather than intra-personal leadership.

11.3 Study 2: Discussion and Implications

11.3.1 Discussion

Study 2 was structured around a number of key aims. The first was to design and develop an intervention to bring about a change in leader resilience. Once developed, the objective was to
investigate whether resilience measures could be enhanced using this developmental intervention. The second aim was to investigate whether improving resilience would have a positive impact on the transformational leadership style. The results of Study 2 provided evidence that the intervention designed to produce enhancements in leader resilience led to increased measures of resilience and an enhanced transformational leadership style.

Previous research indicates that enhancements can be achieved in resilience and leadership capability with developmental interventions designed to strengthen malleable dispositional attributes (Maddi et al., 1998). There is an increasing body of research investigating the developmental practices that are used to enhance well-being and resilience. This research indicates that resilience levels and other malleable dispositional attributes can be altered using well-designed interventions (Adler et al., 2015; Cohn & Pakenham, 2009; Maddi et al., 1998; Sood et al., 2011). The results of Study 2 confirm these findings, showing that a three-day intervention enhanced resilience and transformational leadership. The three-day workshop was tested using a before-and-after quasi-experimental design to assess whether the intervention improved levels of resilience and caused a positive change in leadership style. The research sample comprised leaders (n = 27) from two organisations, one in the public sector and one in the not-for-profit sector. The postulated relationships were based on the structural equation model validated in Study 1. It was hypothesised that there would be a shift in leadership style as a result of a shift in resilience. These relationships were supported by the significant correlations established in Study 1. In Study 2, the statistical relationships showed a significant change in both the self-assessment of resilience and the self-assessment and boss-assessment of transformational leadership. Study 2 is important, as use was made of multiple data-gathering strategies with both a self- and boss-assessment. The use of self- and boss-assessment adds to the credibility to the results and Study 2 goes some way to addressing the challenges of self-reporting.

Hypothesis 3(a) stated that the intervention would lead to a significant positive change in leader resilience and Hypothesis 3(b) stated that the intervention would lead to a significant positive
change in the dimensions of leader resilience (see Section 8.2.2.2). As previously mentioned, prior research into the development practices used to enhance malleable dispositional attributes indicated that resilience levels can be altered by a well-designed intervention (Maddi et al., 1998; Varker & Devilly, 2012). The results of Study 2 support these findings, with the developmental intervention designed to develop leader resilience producing a significant and positive impact on resilience, self-concept well-being, locus of control and constructive thinking. Paired-sample $t$-tests revealed that resilience scores post-intervention were significantly higher than pre-intervention scores. The $t$-tests for each of the dimensions of resilience were also significantly higher after the developmental intervention.

Hypothesis 4(a) stated developing leader resilience would have a significant positive impact on both self-assessed and boss-assessed transformational leadership scores, Hypothesis 4(b) stated that developing leader resilience would have a negative impact on both self-assessed and boss-assessed transactional leadership scores and Hypothesis 4(c) stated that there would be a positive correlation between boss-assessed and self-assessed scores of both transformational and transactional leadership, pre- and post-intervention (see Section 8.2.2.2). Within most organisations, leadership development is one of the key strategies utilised to enhance leadership and improve outcomes (Howard & Wellins, 2009). Researchers generally concur that research in the area of leadership development has both lagged behind the broader leadership research and has shown mixed results (Day & Sin, 2009). Recent studies on leadership development have begun to separate leadership development and leader development, observing that leader development has a more significant impact on leadership outcomes (Day, 2001; Landy & Conte, 2016). The findings of Study 2 support previous research findings, showing that developing leaders’ resilience produced a significant positive shift in self- and boss-assessed transformational leadership. Pre- and post-intervention measures using $t$-tests indicated that the workshop designed to develop leader resilience enhanced transformational leadership style. There was also support for the proposed lack of correlation between enhancing leader resilience and transactional leadership. The shift in boss
assessed transactional leadership appears to be unusual. There is no missing data which may have been a factor in these results. Another explanation could be related to the small sample size of the group. These issues that would require further investigation with a larger sample size to more fully understand the relationship. The majority of researchers recommend using a sample size of at least 200 for structural equation modelling (Kline, 2011). However, some more recent researchers indicate that samples sizes of 50 to 70 would be enough to assess brain functioning with four latent variables (Sideridis, Simos, Papanicolaou & Fletcher, 2014). It would be useful for future researchers to use G Power to calculate the sample size more accurately.

The combined results for Hypotheses 3 and 4 confirm that interventions designed to improve the intra-personal leadership capability of individuals strengthen leaders’ resilience and their capacity to use a transformational leadership style. These results have significant implications for future leadership development activities.

11.3.2 Implications

The purpose of Study 2 was to contribute to the debate on ways of enhancing leadership development outcomes. Over the last decade, there has been ongoing discontent with the traditional focus of leadership development and the outcomes achieved through the use of those strategies (Day & Sin, 2009; Howard & Wellins, 2009). Research in the area of leadership development has, as previously mentioned, lagged behind the broader leadership research (Day & Sin, 2009). Not only is there limited research on the impact of different types of development on leadership outcomes, but the results of studies have been mixed (Day & Sin, 2009). Howard and Wellins (2009) observed that even though leadership development is a multibillion-dollar business, 59 per cent of leaders surveyed were dissatisfied with the development they received over 12 months. In the present thesis, the model of leader resilience articulated in an organisational setting and validated in Study 1 formed the foundation for the design of the intervention. The results from Study 2 showed that enhancing leader resilience produced a significant shift in transformational leadership capability. The results
indicate that organisations that focus their developmental strategies on enhancing the malleable dispositional attribute of resilience will improve leadership capability.

This thesis commenced by setting out the organisational context for a change in focus in the leadership debate. It is clear that the ability of organisations to effectively navigate the constantly changing circumstances of today’s turbulent business environment requires a new and constantly evolving leadership capability (Gilley, 2005; Gilley et al., 2008). The leadership capabilities that were deemed essential in the previous business context do not necessarily support success in the present environment (Garbowski, 2010; Gilley, 2005; Offutt, 2011). The process of developing leaders requires a move away from traditional leadership development strategies that do not appear to be providing support for advancing leadership capability in the present business context (Day & Lord, 1988). The results of Studies 1 and 2 offer significant support for the small number of research findings that have indicated that a new approach is required—specifically, the inclusion of intrapersonal capacity in the development of leadership capability (Garbowski, 2010; Offutt, 2011). The results show that developing leaders’ intra-personal capacity enhances their resilience, which in turn supports adaptability, flexibility and maintenance of well-being. The results also indicate that the development of leader resilience also improves a leader’s ability to deliver a transformational leadership style, which has been shown to support a leader’s ability to manage and deal with change and turbulence.

In the Western Australian context, there has been limited focus on leader development and the enhancement of dispositional attributes. The programs reviewed in Study 2 are some of the most renowned global developmental interventions designed to enhance malleable dispositional attributes and deliver changes in leadership capability. Moreover, most of the interventions researched in the development of the three-day workshop are either not offered in or are limited to individual organisations in Western Australia. For organisations to meet the present economic and contextual challenges, there needs to be a shift in the focus on leadership and leadership development. The confirmed lack of outcomes from leadership development and the dearth of quality leadership will
not be addressed until organisations transform their leadership development focus (Howard & Wellins, 2009). This transformation needs to concentrate on moving away from traditional leadership development towards developing the capacity of leaders to adapt to the present business context. The results of Studies 1 and 2 indicate that a change towards the development of malleable dispositional attributes will provide a new focus for leadership and leadership development. These results add to the debate on future directions for developmental activity in organisations.

11.4 Limitations of Study 1 and 2

Studies 1 and 2 provide new and exciting research data to assist organisations and developers in the pursuit of enhanced outcomes in the leadership space. However, there are some limitations that impact on the generalisability of the research and limit the strength of the conclusions that can be made. This section will review these issues.

Malleable dispositional attributes are underlying and often unconscious factors that are difficult to observe and assess. In Study 1 self-reporting was used to examine the relationship between resilience and the dimensions of resilience. The use of self-reporting did impose some limitations on the study, as self-ratings have been shown to be less reliable and may result in an overestimation of factors being measured (Dunning, Johnson, Ehrlinger & Kruger, 2003; Zenger, 1992). In Study 2, this limitation was moderated with the use of self- and boss-assessments to measure the change in leadership style. The addition of boss-assessment went some way to mitigating the limitations of the use of self-reporting in Study 1.

Another limitation of Studies 1 and 2 was the method of data collection. The data collection for Study 1 was completed over an extended period due to issues around access to individuals in leadership roles. The data collection method required access to leaders from a range of organisations prepared to make time to complete the five diagnostics (the questionnaires took approximately two hours to complete). The time needed to complete the diagnostics not only limited the number of participants who completed them but may have caused a degree of bias in the results, as they were completing questions that were very similar nature (Zenger, 1992). However, the use of participants
from a range of organisations was an improvement on previous studies, most of which were completed in one organisation and therefore subject to possible cultural bias (Kerlinger, 1986).

The diversity of businesses that were approached assisted with generalisability to a range of organisations. However, this did mean that there was no opportunity to utilise a random sample. The only option was nonprobability sampling, which is not as robust from an experimental perspective. The data collection was based on a convenience sample, which poses limitations for the experimental quality of the research. The sample was based on the researcher’s access to a range of organisations and was reliant on individuals making a personal decision as to whether they would participate in the research. Much of the previous research in this area focused on individual organisations, thereby limiting the generalisability of the results, although it also enhanced the control of data collection and provided the opportunity for random sampling within a particular business. Studies 1 and 2, while experiencing challenges in the sampling method, used a range of organisations across both the government and private sector, which broadened the research focus and enhanced the generalisability of the results.

Study 1 had a moderate sample size of 110. A larger sample would have improved the generalisability and further strengthened the data analysis. A structural equation model was used in the data analysis, as it was most appropriate method of investigating a proposed model of this type and of reducing error. However, it is a requirement of SEM data analysis to have a sample size of around 200 to provide enhanced statistical certainty in the relationships (Breverton & Millward, 2001). With a sample size of only 110, the SEM relationships identified in this thesis are less statistically sound.

Study 2 was designed as a support for the findings from study 1 and focused on two organisations, one in the government sector and one in the private sector. The decision to concentrate on individual organisations was based on unsuccessful attempts to offer open programs to leaders from a range of organisations. The Western Australian marketplace does not encourage developmental solutions longer than one day; efforts to encourage leaders to attend a three-day
program without the commitment from organisations was unsuccessful. The design of an intervention that was three-days did have implications for the number of participants that were involved. However, based on the results of a comprehensive review of other interventions of this type, it was decided that lasting change was more likely to be achieved with a three-day intervention (Schiraldi, Jackson, Brown & Jordan, 2010; Robertson, Cooper, Sarkar & Curran, 2015). Therefore, the limitation of numbers of participants was seen as acceptable in the research context. There is an opportunity to research further this type of intervention in an environment where three-days is seen as a more reasonable time for developmental interventions and assess the impact in those environments. There were also limitations due to the diagnostics used in study 1. The diagnostics took approximately two hours to complete, which is a significant commitment of time and could have resulted in a lack of completion. However, this limitation was overcome due to the relationships with the organisations that were involved in the research. There was trust developed with participants as they were involved in attending a workshop run by the researcher before participation in the research.

This research was conducted in an organisational context, so there were limitations with regard to experimental control (Breverton & Millward, 2001; Landy & Conte, 2016). Access to leaders was challenging and it was not possible to persuade a further 27 participants to take part in a control group to improve experimental rigor. Therefore, there may have been distracting or extraneous variables that were not controlled for in the research design and that contributed to the results. Studies 1 and 2 were designed to investigate malleable dispositional attributes and the underlying dimensions that contribute to these. This focus required the use of a range of diagnostics and may have led to some level of questionnaire fatigue.

Although the statistical relationships were shown to be significant, Study 2 made use of a small sample size, which had an impact on the certainty of the results. There is an opportunity to investigate this further using larger samples. The advantage of the present research was that two different organisations were utilised, adding to the generalisability of the results. Much of the
previous research in this area has been criticised for its use of self-reporting as the only data-gathering strategy (Dunning et al., 2003).

There are also limitations related to the model that was defined. The model was developed based on a multidisciplinary review of resilience research. One of the key findings from clinical psychology research was that social support was essential for maintaining resilience (Howell & Avolio, 1993). Social support was excluded from the proposed model of leader resilience, as it did not align with the model of transformational leadership (Bass, 1985; Bass et al., 2003; Howell & Avolio, 1993). According to Bass (1985), the intra-personal and inter-personal aspects of leadership are separate from each other. The model of leader resilience defined in the present research focused on the intra-personal aspect of leadership and social support was, therefore, excluded from the model of resilience. There is an opportunity for future research to look at both aspects of resilience the intra-personal aspects and the inter-personal aspects to more fully conceptualise resilience.

There are very clear limitations to Study 1 and 2 based on some aspects of the research design. However, as the research was field-based, it important to acknowledge that these challenges are partially counteracted by the advantages of field-based studies in assessing important organisational issues in a more natural setting. The advantage of field-based studies is that they are better suited to testing theory and thus often result in stronger findings (Kerlinger, 1986).

11.5 Recommendations for Further Research

Through Studies 1 and 2 this thesis has proposed and validated a model of leader resilience for use in the organisational context. It has also provided evidence of the relationship between resilience and transformational leadership, along with ways to develop both resilience and leadership style.

This thesis contributes to theory and research in the validation of an organisational model of leader resilience. This contribution offers the opportunity for further validation of the model of leader resilience and the dimensions of resilience in an organisational context. Confirmation of the relationship between resilience and leadership style has significant implications for consulting,
research and business. This confirmation provides a platform for further research into the use of resilience training in enhancing leadership capability and developmental strategies within organisations.

The confirmation of the proposed model of leader resilience provides a research platform to accelerate the discussion and debate on malleable dispositional attributes in the organisational setting. The results also offer the opportunity for further research into malleable dispositional attributes in the organisational setting and further validation of the three dimensions of leader resilience. The model of resilience also presents a research opportunity for the development and validation of a diagnostic to measure leader resilience in an organisational context. The resilience measure (Wagnild, 2009) used in the present research has five dimensions, while the results of Study 1 suggest that in an organisational setting there are only three dimensions. This difference between clinical and organisational measures highlights the requirement for further research into the development of a resilience diagnostic that is specifically framed within the organisational context.

Studies 1 and 2 provide valuable guidance to researchers and leadership development professionals seeking to enhance the outcomes of leadership development. The confirmation of the significant change that can result from developmental interventions designed to increase resilience provides a new and exciting area of development in the leadership development arena. The results provide an opportunity for developers to change the focus of leader development and shift to a new emphasis on enhancing leadership; they also contribute to the evolution of the leadership development arena itself. There is an opportunity for a significant shift in the field of leadership development and in all aspects of organisational development. Further research can re-envision all aspects of leadership enhancement, including assessment, recruitment, development, mentoring, 360s, coaching, competency evaluation, performance appraisal and rewards.
11.6 Conclusion

The requirement of transformational leadership capability has never been more essential in the context of a volatile and changeable business environment (Lewis et al., 2000). Organisational success in the present economic climate relies on leaders inspiring their people to meet the challenges of change while maintaining a focus on the long-term vision and direction of the organisation (Draghici & Draghici, 2007). Key to achieving this is the ability of the leaders within the organisation to utilise a transformational style consistently (Bass, Avolio, Jung, & Berson, 2003). The findings of the present research align with recent studies in suggesting that leaders striving to deliver a transformational leadership style should focus on enhancing dispositional factors such as leader resilience (Garbowski, 2010). Study 1 in the present research indicates that developing resilience enhances the leader’s intra-personal leadership, which then enables their effectiveness in the inter-personal leadership arena (Bass et al., 2003).

There is ongoing research on the importance of resilience in enhancing outcomes for individuals (Adler, Williams, McGurk, Moss & Bliese, 2015). However, there is disagreement on the dimensions of resilience and limited research on resilience in an organisational setting (Lamp, 2014). Study 1 presents a model of leader resilience developed from a review of multi-disciplinary research. This model, which was tested using leaders from across Western Australia and within all business sectors, offers an enhanced understanding of resilience in an organisational context. The model also aligns with Bass’s (1985) full-range model of transformational leadership. The model of leader resilience provides a platform for enhancing the understanding of resilience in organisations and the opportunity to improve developmental strategies in this arena.

The lack of consistent outcomes in the leadership development arena has been highlighted repeatedly over the years (Howard & Wellins, 2009; Ashford & DeRue, 2010). The findings from this study align with recent views that there needs to be a shift in focus away from traditional leadership development practices (Day & Sin, 2009). The present research indicates a need to move towards a greater emphasis on developing leaders’ intra-personal capacities by focusing on
malleable dispositional attributes such as resilience. Study 2 of the present research suggests that enhancing an individual’s transformational leadership capacity requires a focus on building that persons’ resilience as a leader by enhancing the dimensions self-concept well-being, locus of control and constructive thinking.
References


Hoffman, J. N. (2004). Building resilient leaders: Many universities and school districts are creating support mechanisms that increase administrator resiliency and lead to greater retention. *Leadership, 34*(1), 35–38.


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Appendices

Appendix A: Additional Graphs

Figure A.1. Normal Q-Q plot of resilience.

Figure A.2. Normal Q-Q plot of self-concept well-being.
Figure A.3. Normal Q-Q plot of locus of control.

Figure A.4. Normal Q-Q plot of constructive thinking.
Figure A.5. Normal Q-Q plot of transformational leadership.

Figure A.6. Normal Q-Q plot of transactional leadership.
Figure A.7. Scatter plot for resilience and self-concept well-being.

Figure A.8. Scatter plot for resilience and locus of control.
**Figure A.9.** Scatter plot for resilience and constructive thinking.

**Figure A.10.** P-P plot of regression residual.
Figure A.11. Scatter plot for resilience and transformational leadership.

Figure A.12. Scatter plot for resilience and transactional leadership.
## Appendix B: Additional Tables

### Table B.1

**Inter-subscale Pearson correlations for resilience**

<table>
<thead>
<tr>
<th>Resilience Dimensions</th>
<th>Self-Reliance</th>
<th>Existential Aloneness</th>
<th>Meaning</th>
<th>Equanimity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perseverance</td>
<td>.622**</td>
<td>.622**</td>
<td>.726**</td>
<td>.510**</td>
</tr>
<tr>
<td>Self-reliance</td>
<td>.654**</td>
<td></td>
<td>.665**</td>
<td>.573**</td>
</tr>
<tr>
<td>Existential aloneness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td></td>
<td></td>
<td>.704**</td>
<td>.491**</td>
</tr>
</tbody>
</table>

*Note.* $n = 110$.

**p < 0.01.

Overall Cronbach’s alpha (25 items) = .918.

### Table B.2

**Inter-Subscale Pearson Correlations for MLQ**

<table>
<thead>
<tr>
<th>MLQ dimensions</th>
<th>IA</th>
<th>IB</th>
<th>IM</th>
<th>IS</th>
<th>IC</th>
<th>CR</th>
<th>MEA</th>
<th>MEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>.509**</td>
<td>.621**</td>
<td>.345**</td>
<td>.511**</td>
<td>.489**</td>
<td>.038**</td>
<td>- .098</td>
<td></td>
</tr>
<tr>
<td>IB</td>
<td>.713**</td>
<td>- .218</td>
<td>.488**</td>
<td>.598**</td>
<td>.038**</td>
<td>- .312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM</td>
<td>.568**</td>
<td>.637**</td>
<td>.471**</td>
<td>.026**</td>
<td>- .424</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IS</td>
<td>.590**</td>
<td>.353**</td>
<td>.094**</td>
<td>- .334</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IC</td>
<td>.431**</td>
<td>.173**</td>
<td>- .313</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>- .119</td>
<td>.359**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEA</td>
<td>.119**</td>
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</tr>
</tbody>
</table>

*Note.* MLQ = multifactorial leadership questionnaire, IA = Idealised attributes, IB = Idealised behaviours, IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individual consideration, CR = Contingent reward, MEA = Management by exemption (active), MEP = Management by exemption (passive).

**p < 0.01.

Overall Cronbach’s alpha (45 items) = .795**.
Appendix C: Resilience in Leadership Workshop Outlines

Run by the Resilience Institute

Pre-work

Introductory session:

Read key *Harvard Business Review* articles

Complete Health Risk Assessment – Lifestyle and Clinical Measures

Workshop 1: Physical Vitality

Physical vitality

Health assessment feedback and risk management

Exercise and fitness

Sleep and fatigue

Nutrition and meal planning

Integral daily practice

Development planning and commitments

Workshop 2: Self Mastery

Death spiral and bounce back

Relaxation and rejuvenation

Breath control

Flow: Optimal performance states

Attention control

Development planning and commitments

Workshop 3: Performance Mindset

Introduction to mind and emotion
Impulse control
Brain training and self-awareness
Reframing and practical optimism
Emotion regulation
Confidence and leadership presence
Development planning and commitments

Workshop 4: Leadership and Influence
Empathy: reading and understanding others
The tipping points for outstanding leadership
Influence: the key competence of leadership
Leadership styles, flexibility and performance
Managing tough communication
Leadership coaching skills
Development planning and ongoing support

Workshops 3 and 4 are preceded by our online 360 leadership competency assessment.

Workshop 5: Spirit in Action
Meaning in the FLOW of work and life
Multiple perspectives and consciousness
Purpose, authenticity and exuberance
Compassion and sustainability
Engaging and enrolling your stakeholders
Seven Habits of Highly Effective People Workshop Outline

Run by the Franklin Covey Organisation

Live the 7 Habits to create dramatic change in your life.

No matter how competent a person you are, you will not have sustained and lasting success unless you are able to effectively lead yourself, influence, engage, and collaborate with others—and continuously improve and renew your capabilities. These elements are at the heart of personal, team, and organisational effectiveness.

Renowned as the world’s premier personal leadership development and training program, The 7 Habits of Highly Effective People aligns timeless principles of effectiveness with the relevancy of today’s practices as well as modern technology. The new Signature 4.0 version of this program takes the 7 Habits to a whole new level, with even more tools and processes to help you live and apply the 7 Habits, including more than 30 new world-class videos; a new Living the 7 Habits new skill and practice cards with 20 new 7 Habits practices, a powerful new mobile app, and much more.

You will learn to:

- Execute critical priorities with laser-like focus and careful planning;
- End self-defeating behaviour and gain the necessary security you need to change;
- Develop strong relationships based on mutual trust;
- Be prepared to deal with difficult circumstances before they happen;
- Know how to increase team engagement, morale, and collaboration;
- Apply a framework for developing core values and creating a highly effective culture; and
- Recognize how to develop high-potential leaders who model competence and character.

All course faculty are trained experts in Franklin Covey’s The 7 Habits of Highly Effective People curriculum. Dr. Stephen R. Covey is a globally respected leadership authority. His international bestseller, *The 7 Habits of Highly Effective People*, was named one of the 10 most
influential management books ever by Forbes magazine. It is the bestselling audiobook in history. 70 per cent of today’s top performers lack critical attributes essential for their success in future roles.

Length of Training: 3 days

Topics Covered:

- Habit 1: Be Proactive—Focus and act on what you can control and influence, instead of what you can’t.
- Habit 2: Begin with the End in Mind—Define clear measures of success and a plan to achieve them.
- Habit 3: Put First Things First—Prioritize and achieve your most important goals, instead of constantly reacting to urgencies.
- Habit 4: Think Win-Win—Collaborate more effectively by building high-trust relationships.
- Habit 5: Seek first to understand, and then to be understood—Influence others by developing a deep understanding of their needs and perspectives.
- Habit 6: Synergize—Develop innovative solutions that leverage diversity and satisfy all key stakeholders.
- Habit 7: Sharpen the Saw—Increase motivation, energy, and work/life balance by making time for renewing activities.
Hardiness Training Workshop Outline

Run by the Hardiness Institute

The Hardiness Institute offers a hardiness workshop that emphasizes individual and organisational stress mastery, performance and leadership effectiveness. The workshop covers comprehensively the types of risk factors that influence performance, leadership, and general well-being, as well as the resistance resources individuals and groups need to manage a highly complex and changing world.

Length of training: 3 days

Hardiness Workshop topics include:

- Mastering twenty-first century workplace trends, including an analysis of the typical sources of stress in contemporary work life (such as downsizing, re-organisation, mergers), and a strategy for turning change to advantage so as to enhance performance, leadership, and market edge, while remaining productive and satisfied.

- Mastering disruptive changes and conflicts in private life, which can include a range of typical living problems or may emphasize subjects such as divorce, loneliness, marriage and addictions, which include food, alcohol and drugs, or career.

- Mastering the difficulties of retirement and aging, emphasizing techniques that help retirees to cope with health, career, and family shifts, and to find ways to renew oneself despite such changes.

- Mastering the stresses of serious illness, indicating how one can use these stressful changes, as a springboard to deepen understanding and appreciation of life.

- Mastering Organisational Growing Pains: Growing employees from within and retaining them. This workshop emphasizes the culture shock that can occur when a company transitions from a small to a large revenue enterprise.