THESIS

Building-up Leaders for Challenges Through Vicarious Learning: Reflections from Australian Leaders

This thesis is presented for the degree of
Doctor of Philosophy of Murdoch University

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October 2022

THESIS DECLARATION

I, Mengye Yu, declare that:

This thesis is my account of my research and has been substantially accomplished during enrolment in this degree, except where other sources are fully acknowledged. All co-authors, where stated and certified by my Principal Supervisor or Executive Author, have agreed that the works presented in this thesis represent substantial contributions from myself. The thesis contains as its main content, work that has not previously been submitted for a degree at any other university. In the future, no part of this thesis will be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of Murdoch University and where applicable, any partner institution responsible for the joint-award of this degree.

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This thesis contains published work and/or work prepared for publication, some of which have been co-authored.

Signature: Mengye Yu

Date: 14/01/2022

AUTHORSHIP DECLARATION

This research is designed according to the Murdoch University Graduate Research Degrees Thesis Style Guideline: Thesis by Compilation. A Graduate Research Degree (GRD) thesis by compilation comprises a PhD thesis with published or publishable journal articles and book chapters. At the beginning of this research, the candidate and supervisor agreed to design and conduct the study by following the criteria of Thesis by Compilation (Murdoch-University, 2020). This is aligned with the guidelines of a thesis by publication (TBP) and is an interchangeable term for a thesis by compilation (TBC) (Mason et al., 2018).

This thesis adheres to three key rules, as follows:

- The expected number of peer-reviewed publications or prepared for publication at the time of thesis submission is four.
- The candidate is the first author and major contributor to all publications or items prepared for publication.
- All papers included in the thesis by compilation are researched and written during the course of the PhD candidature.

ACKNOWLEDGEMENTS

ABSTRACT

Organizational leaders are essential for dealing with various workplace challenges, such as VUCA (volatility, uncertainty, complexity, and ambiguity) circumstances, and leadership development (LD) is a common way to build-up leaders. However, leadership practitioners are sometimes strongly dissatisfied with LD programs, which has been identified as ineffective in developing leaders for challenging circumstances. Thus, this research aims to discover how to prepare leaders for challenging work environments.

This inductive research investigates open-ended reflections collected from 42 Australian leaders in LD programs to achieve the objective in regard to how crucial leadership capabilities are demonstrated in dealing with challenges and how to develop them. This research includes one methodological study and two empirical inductive studies. The methodological study develops a transparent step-by-step research framework through which the two qualitative studies are conducted. This qualitative research found that leadership resilience is essential in dealing with challenges, and it can strongly motivate others to learn. By observing leadership resilience demonstrated in challenging situations, leaders can improve their capabilities of dealing with challenges (e.g., leadership self-efficacy and self-awareness).

These findings enrich the theoretical understanding of social cognitive theory by integrating 'Resilient Attitude' and 'Coping Skills' dimensions into the triadic schematization and contributes to better preparing leaders for challenges from two aspects. Firstly, the vicarious learning mechanism can explain 'How to develop leaders'. Secondly, this research provides a theoretical contribution to psychological resilience by presenting a three-dimension model (resilient attitude, resilient behaviour, and coping skills), which answers 'What is to be developed'. This research outlines that leaders can improve their capabilities of dealing with challenging circumstances by observing others' challenges and their resilient responses. This finding provides practical contributions to leadership development programs and other human resource management, e.g., talent management. In addition, the author-designed research framework may assist other new researchers in their studies.

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Attribution Statements

The content in this thesis was developed by the Candidate with advice from their supervisory panel.

The following individuals contributed to the thesis.

Contributor	Contribution (%)	Concept Development	Data Collection	Data Analyses	Drafting of Chapters
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Contribution indicates the total involvement the student and other contributors (supervisors etc.) have had in the creation of the thesis. Placing an 'X' in the remaining boxes indicates which aspect(s) of the thesis each individual engaged in.

By signing this document, the Candidate and Principal Supervisor acknowledge that the above information is accurate and has been agreed to by all other contributors.

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Chapter 1: Introduction

The introduction chapter (Chapter 1) includes a general overview of the entire thesis, a structural outline of the research, and its contribution to the field of research. The critical literature review and research rationale follow in Chapter 2.

The contemporary workplaces are dynamic and competitive as a result of digitalization, globalization, and increasing worldwide competition. In the uncertain contemporary environment, a challenge can be defined as a demanding task or other difficulties; synonyms could be objection or problem (Oxford-University-Press, 2022). Thus, dealing with various challenges has become an inevitable leadership responsibility in increasingly demanding and stressful workplaces (Sturm et al., 2017). Leadership challenges may display in diversified phenomena along with context changes such as environmental and discipline differences (Zhang & Tian, 2022). In particular, Johansen (2012) characterized the accelerating disruptive world as one of volatility, uncertainty, complexity, and ambiguity (VUCA). In challenging work environments, organizations become increasingly demanding and stressful places, and dealing with challenges is crucial for leaders and has become an inevitable leadership responsibility (Sturm et al., 2017). For example, Roche et al. (2014) found that high levels of stress may counteract organizational performance and cause leaders' psychological problems, such as managerial burnout, anxiety, or depression. Furthermore, work stress may lead to physical health problems, such as heart disease, and consequently negatively impact leaders' and other employees' performance and wellbeing (Crawford et al., 2010). Johansen (2012) also explained that new leadership skills (e.g., capability to deal with changes) should be unveiled and

developed because traditional leadership skills would not be enough to support leaders to survive in the VUCA world.

These issues, such as health problems while working under pressure, were observed in instances of dealing with various challenges, and dealing with them had been a critical part of leaders' daily work in recent decades (Kaluza et al., 2019; Lewis, 2000; Poole & Andrew, 1989). Thus, organizations and leaders are required to prepare themselves with new defined leadership capabilities to deal with unexpected changes and adversity. However, some extant LD studies missed this focus. For example, Feser et al. (2017) claimed that most LD programs were overly focused on delivering knowledge and skills that did not enhance the trainee's practical abilities and skills in a challenging workplace. In addition, Salicru (2020) argued that effective leadership should be highly embedded in its contexts; yet, most LD activities did not align with the contemporary changing world. Thus, how to prepare leaders with the abilities to deal with challenges becomes crucial in terms of (1) what kind of leadership attributes can effectively lead in challenging situations and (2) how to develop leadership capabilities for dealing with challenges.

Extant studies have provided some strategies through which leaders have dealt with challenges. For example, adaptive leadership has found that accepting adversity and being adaptive to challenges may help leaders in challenging environments (Heifetz et al., 2009). Flexible and adaptive leadership approaches reveal the importance of awareness of challenging situations. Psychological studies also have found that psychological resilience is crucial in helping individuals and organizations bounce back from adversity (Luthans, 2002). Even though such studies reveal some practices for dealing with adversity, crises, and other diverse challenges, the question of how to build up leaders and organizations for challenges is still largely unclear in the reviewed literature. In other words, what kind of

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leadership capabilities for confronting various work and personal difficulties and their developing strategies are mixed in the extant studies. Chapter 2 provides a critical review and a detailed explanation of the positive aspects and limitations in the literature pertaining to leadership development and effective leadership in dealing with challenges.

To summarize, there is not enough emphasis in the literature on developing leadership capabilities for dealing with various challenges, and there are no explicitly articulated strategies to develop the required competences. Therefore, the current research aims to deepen insights into what leadership attribute is essential for challenging environments and provide a further understanding of the building-up strategies for preparing leaders to lead in challenging situations.

1.1. Research Design

This research employs a sequence of investigations to define the research gap and achieve the research aims: literature review, one methodological study, and two empirical studies (shown in Figure 1). The literature review includes two general literature reviews and one systematic literature review. The first general literature review focused on existing leadership development (LD) studies in order to advance understanding of the success and issues in the LD area (detail in Chapter 2.1). Secondly, this research reviewed extant studies focused on leadership in challenging situations, e.g., adaptive leadership (Heifetz et al., 2009), leading under pressure (James & Wooten, 2010), flexible leadership (Kaiser & Overfield, 2010; Norton, 2010; Yukl & Mahsud, 2010), and psychological resilience (Luthans, 2002) (detail in Chapter 2.2). These reviewed studies provided some awareness of challenges and coping skills that can help leaders in challenging situations (e.g., being adaptive and psychological resilience), which encouraged conducting a systematic literature review to advance understanding of resilience operationalized in leadership contexts.

Following the general literature, a systematic literature review (SLR) focused on how psychological resilience interacted with leadership at workplaces (detail in Chapter 2.3). This SLR study found that psychological resilience is a vital developmental capability across leadership contexts and has shown benefits for performance, leadership capability improvement, and well-being. Yet how resilience is demonstrated as part of leadership development programs, particularly to prepare leaders for challenging situations, is largely unclear.

Hence, in sum, how to prepare leaders for challenging situations remains unclear in regard to the capabilities needed and the development mechanisms required. Thus this research aims to discover insights into what leadership capabilities or attributes support dealing with challenges and how to develop these. To achieve research objectives, this research seeks to answer two research questions: (1) How do we develop the required leadership capabilities for dealing with leadership challenges? and (2) How are these leadership attributes and capabilities demonstrated in action during challenging circumstances?

Deepening understanding and providing answers to 'What', 'How' and 'Why' questions typically resonate with qualitative studies (Tracy, 2010). Thus, an inductive qualitative methodology is suited to this research and leads the research design. Accordingly, this thesis is presented as three studies: one methodological study (Study 1) and two qualitative empirical studies (Study 2 and Study 3). Study 1 (Chapter 4.1) develops an evolved three-phase grounded theory data analysis approach that demonstrates how a PhD student can effectively conduct this research by adopting the grounded theory approach and strongly supports Study 2 (Chapter 4.2) and Study 3 (Chapter 4.3). Study 1 has been published in the *International Journal of Doctoral Studies*, which may assist other new

researchers in implementing the grounded theory data analysis approach by way of providing a transparent step-by-step guideline. Study 2 investigates how to develop leadership capabilities for dealing with challenges through vicariously learning from others' challenging experiences. Study 2 found that leadership resilience demonstrated in challenging experiences can strongly motivate leaders to learn and transfer their learning. In addition, this study found that leadership resilience is essential for leaders to successful in challenging circumstances. Yet, how leadership resilience impacts leadership capability and subsequent outputs, such as performance and wellbeing at workplaces, is not fully revealed in Study 2. Thus, Study 3 investigates how these leadership capabilities, e.g., awareness of challenges, resilient attitude, resilient behaviour, and coping skills, are demonstrated in dealing with challenges.

Figure 1. The Research Structure of Preparing Leaders for Challenges

GLR: General literature review   SLR: Systematic literature review   LD: Leadership development

1.2. Thesis Structure

In accordance with the Murdoch University Graduate Research Degrees Thesis Style Guideline of Thesis by Compilation, as stated above, this thesis comprises six chapters: (1) an introduction, (2) a literature review of critical views on leadership and leadership development for challenging situations, (3) the research methodology, (4) three studies, (5) discussion, and (6) conclusion. Chapter 1 introduces the research overview, research design, thesis structure, research contribution and impact in general.

Chapter 2 presents a 'traditional' literature review that focuses on leadership development and leadership in challenges and a 'systematic' literature review that deepens understanding of how psychological resilience interacts with leadership when dealing with challenges. As a result, Chapter 2 reveals extant knowledge of preparing leaders for challenges, identifies research gaps, and defines the research aim through these literature reviews.

Chapter 3 explains the research methodology and rationale. To achieve the research objectives – to deepen understanding of how to prepare leaders for challenging situations – this research follows an interpretivism philosophy and employs inductive qualitative approaches, and it uses elements of grounded theory data-analysis techniques to ensure research quality.

Chapter 4 presents three articles: one methodological study in Chapter 4A and two empirical studies in Chapter 4B. Chapter 4.1 is the methodological study. It showcases the research method based on the grounded-theory approaches that contribute methodologically to future research studies in the leadership development field. The author-designed research framework (see Figure 9: Three-Stage Research Framework) will help researchers apply this method step-by-step by integrating three practical innovations with grounded theory's core

principles. Study 2 is the first empirical study (Chapter 4.2) that presents how to develop leadership capabilities of dealing with challenges by vicarious learning from others' experiences and leadership resilience. Building upon the findings from this empirical study, Study 3 (Chapter 4.3) reveals how leadership resilience is demonstrated in action when dealing with various challenges.

Chapter 5 provides a discussion and summarises the contributions of this qualitative research. It integrates the empirical findings and articulates the contributions in three dimensions: theoretical, practical, and methodological.

Chapter 6 concludes this research and summarises the research journey undertaken.

The last two parts of this thesis are the references and the appendices.

1.3. Contribution and Impact

From the literature review, this research found that the extant LD studies were dominated by expanding leadership knowledge and skills and building multiple capability repertoires. However, the existing studies on leadership in challenging situations have not explicitly clarified leadership development strategies for overcoming challenges. Nor did they reveal the underpinning learning mechanism of leadership development activities. Thus, this thesis addresses the research gap through a qualitative approach and provides insights into how to prepare leaders for challenging situations across three dimensions: How, What, and Why, through four key empirical findings.

These findings include: (1) psychological resilience is essential across leadership styles and positively benefits outputs (detail in Chapter 2.3); (2) leadership resilience and leadership vulnerability in vicarious learning can strongly impact participant leaders' motivation to learn (detail in Chapter 4.2); (3) observing trainer leaders'(guest leaders in this research) leadership resilience demonstrated in actions of dealing with challenges can build-

up leadership capabilities by enhancing self-awareness, coping skills, and self-efficacy (detail in Chapter 4.2); and (4) leadership resilience is demonstrated as resilient attitudes, resilient behaviour, and coping skills (detail in Chapter 4.3). Derived from a systematic literature review and two qualitative studies, these empirical findings offer insights into how to prepare leaders for challenging situations across three dimensions: How, What, and Why. 'How' is about the method employed to develop leadership capabilities by vicarious learning from others' challenging experiences. 'What' is concerned with identifying the leadership attributes (e.g., resilient attributes, resilient behaviour, and coping skills) that are demonstrated in actions when dealing with challenges. 'Why' is shown as the positive leadership development outcomes of psychological resilience and vicarious learning mechanisms on leadership development, such as enhancement of self-awareness, coping skills, and self-efficacy. These findings extend the literature on leadership in challenging situations and make theoretical, practical, and methodological contributions.

Furthermore, these findings enrich the theoretical understanding of social cognitive theory by incorporating 'Resilient Attitude' and 'Coping Skills' dimensions into the triadic schematization, which provides theoretical contributions to prepare leaders for challenges from three aspects. Firstly, leadership resilience is essential in dealing with challenges that can strongly motivate others to learn. Secondly, the vicarious learning mechanism can explain 'How to develop leaders', which may advance theoretical understanding of the social cognitive theory in LD contexts. Finally, a new three dimensions resilience model (resilient attitude, resilient behaviour, and coping skills) provides a theoretical contribution to the psychological resilience concept.

The findings pertaining to leadership resilience and the vicarious learning mechanism have significant implications for LD. They draw attention to learning from others' challenging experiences because this is a particular type of vicarious learning. This research

also provides an author-designed three-phase research framework that will assist other researchers in conducting their grounded-theory-based studies through a transparent step-by-step procedure.

In general, Chapter 1 provides brief information about this thesis, including research design, structural outline, and contributions. And Chapter 2 provides a critical review of the literature on leadership development and existing leadership studies focused on challenging situations. As a result, these literature reviews in Chapter 2 identify research gaps and define the research aim.

Chapter 2: Literature Review

This chapter provides an introduction and background to leadership development (LD), the leaders' challenges in contemporary organizations, and previous efforts demonstrated in dealing with challenges. Chapter 2.1 (Leadership development) reviews existing leadership development studies and identifies problems in LD training activities. Chapter 2.2 (Leadership in challenging situations) reviews previous studies that focused on the leadership capabilities that helped leaders overcome various challenges, e.g., confronting adversity, working under pressure, and dealing with crises. Chapter 2.3 (Systematic literature review of psychological resilience and leadership) reviews extant studies that have focused on psychological resilience interacting with leadership. Finally, Chapter 2.4 summarise this literature review and identifies the research gap.

2.1. Leadership Development

Nowadays, along with digitalization, globalization, and increasing worldwide competition, organizations are faced with various risks and potentially adverse situations that threaten their prosperity and their members' wellbeing (Cortellazzo et al., 2019; Frei-Landau, 2020; Powley, 2009). Organizational leaders' attributes and competence are essential for dealing with the increasing complexity and challenges that arise from the globalized competitive and dynamic work environment (Day & Liu, 2018; Sturm et al., 2017). For example, Gentry and Sparks (2012) conducted a cross-cultural analysis and defined some new essential leadership competencies, e.g., change management and leading under resourcefulness. Thus, leaders are expected to build up their capabilities to fulfill numerous role responsibilities and cope with challenging circumstances (Day, 2000; Eva et al., 2019; Fusco et al., 2015).

In recent decades, leadership development (LD) has been a popular way of developing leadership competencies, and various organizations have put great efforts into LD training activities, including on-job training and using leadership development agents (Ready & Conger, 2003). For example, corporations in the United States have annually invested around $100 billion in developing their employees (Foster, 2008). However, the LD business investment has sometimes received strong criticism from practitioners. For example, Feser et al. (2017) reported that only 11 percent of 500 investigated companies agreed that their LD investment achieved the expected results, in that some leaders were not successfully being developed to deal with challenges. Similarly, another study reported that two-thirds of the more than 3,500 surveyed senior leaders across 50 organizations thought that their organizations' leadership development practices were 'broken' (Day & Dragoni, 2015). What is more, some organizations reported that LD courses are merely a way to lavish time and money on them (Gurdjian et al., 2014).

These reports show that some leadership practitioners are strongly dissatisfied with LD programs, which may be caused by ineffectively identifying LD problems and developing required capabilities for challenging circumstances. Thus, the following literature review will discover the cause of these dissatisfactions and the problems in leadership development.

2.1.1. Leadership Development Issues

From the academic perspective, researchers have reviewed LD studies and reported on the rigor of LD's results. This research investigates five meta-analytic studies which provide a general LD outcome by reviewing 773 LD interventions or managerial training programs reported from 1951 to 2014 (Avolio et al., 2009; Burke & Day, 1986; Collins & Holton, 2004; Lacerenza et al., 2017; Powell & Yalcin, 2010). These five meta-analyses focused on and interpreted LD program results variously, and the consensus view is that LD or

managerial training programs have led to general positive outcomes in terms of reactions, learning, behavioural changes, and performance in recent decades.

The first LD meta-analysis is the seminal work by Burke and Day (1986), which extended Kirkpatrick's learning model and innovatively established four types of criteria (subjective learning, objective learning, subjective behaviour, and objective results) to signify managerial training results. Burke and Day (1986) clarified that the category of subjective learning referred to the improvement of attitudes or skills as stated by the trainee or trainer. In contrast, the objective learning category indicated learned skills or knowledge measured by a standardized test (e.g., knowledge test). Subjective behaviour, the third category, referred to on-the-job behavioural changes perceived by trainees, peers, or supervisors. The fourth criterion, objective results, included measures that evaluated tangible results, such as reduced costs and improved performance. By integrating and comparing 70 empirical managerial training studies, Burke and Day (1986) reported various positive outputs through using different training methods, e.g., behavioural modeling, lecture training with discussion, role-playing, and multiple techniques. They suggested that the adopted training method may alter the training result. For example, the behavioural modeling method underpinning the vicarious learning mechanism may develop interpersonal and problem-solving skills, showing that vicarious learning may lower dissatisfaction with leadership development.

In addition, Burke and Day (1986) stated that, based on Bandura's (1977) social learning theory, behavioural modeling methods combining trainer experiences could influence managerial training results. Yet Burke and Day (1986) stated that developing leaders' interpersonal skills and problem-solving abilities were still difficult to deliver and to estimate their effectiveness. Thus, how to use behavioural modeling or vicarious learning methods to prepare leaders' capabilities to deal with challenges was left unclear in

leadership development literature, which encourages the current research to investigate further.

The other four meta-analytic studies referred to the meta-analysis criteria of Burke and Day (1986), but the integrative results displayed different LD effectiveness. Collins and Holton (2004) found that adult individuals reacted divergently to training, e.g., some leaders can learn leadership knowledge best from lectures, and others can learn operational skills from direct experiences. The findings of Collins and Holton (2004) supported that utilizing different training methods can differ training results. Compared with the first meta-study by Burke and Day (1986), Collins and Holton (2004) focused more on leaders' behavioural changes. They provided a better understanding of behavioural outcomes, which showed that learning from experiences might change leaders' behaviour and improve their operational skills, e.g., problem-solving capability. Even though their study (2004) did not articulate how to develop leaders' problem-solving skills effectively, Collins and Holton's perspective predicts that learning from experience may improve leaders' capabilities to deal with problems, either from personal experiences or from others' experiences. This encourages the current research to investigate development strategies and reveal the underpinning mechanism of leaders' problem-solving skills or dealing with challenging capabilities.

The third meta-study (Avolio et al., 2009) focused more on different effects of training methods on training results and reported similar results with the second meta-study mentioned above. By synthesizing 200 laboratory and field studies, Avolio et al. (2009) categorized trainees into three levels – entry-level leaders (direct supervisors), middle-level leaders, and high-level leaders – and there was a greater overall leadership knowledge effect for lower-level leaders rather than middle- or high-level managers. These findings may explain why training results varied along with training methods and different trained leaders. For example, the first (Burke & Day, 1986) and the second meta-analysis (Collins

& Holton, 2004) reported that in-class lectures could effectively develop the leadership knowledge needed by entry-level leaders (direct supervisors). However, the findings of the third meta-study by Avolio et al. (2009) indicated that the in-class lectures training method might be ineffective in developing middle-level and high-level leaders, as they have already acquired leadership knowledge and skills and need it to build-up different capabilities, such as problem-solving skills. However, Avolio et al. (2009) did not explicitly articulate what kind of leadership capability was missed and did not propose respective development strategies in reviewed LD studies.

Similar to Avolio et al. (2009), the fourth meta-analytic study (Powell & Yalcin, 2010) explored LD results in different levels of trained leaders. Powell and Yalcin (2010) reviewed 85 managerial interventions reported from 1952 to 2002 and found that some middle-level leaders' training effectiveness remained low from the 1950s to the 2000s. For example, the effectiveness of behavioural changes, as criteria to measure skills of dealing with changes, was lower in middle-level managers (0.10) than in entry-level (0.18). This may indicate that these reviewed LD studies were not very effective in developing middle-level or senior leaders, who need to be capable of confronting changes or other types of challenges, as discussed above. This finding may explain why some leadership practitioners were strongly dissatisfied with some LD activities, as mentioned above in the study by Feser et al. (2017).

Finally, the fifth and most recent meta-study has highlighted how LD design and delivery methods differentiate training results (Lacerenza et al., 2017). Lacerenza et al. (2017) categorized 335 LD studies into three types of delivery methods: (1) to deliver information (information-based), (2) to demonstrate the skills and abilities being trained (demonstration-based), and (3) to offer practice opportunities through a practice-based approach. By synthesizing included LD results, Lacerenza et al. (2017) reported that the

effectiveness of problem-solving skills in high-level leaders was significantly smaller than in middle-level or low-level leaders. In particular, this meta-study found that varied LD design and delivery methods can lead to different outcomes. For example, LD programs incorporating a practice-based approach led to greater results than programs containing information-based methods, e.g., in-class lectures (Lacerenza et al., 2017). This finding may explain why information-based methods are ineffective in developing high-level leaders who need to develop problem-solving skills rather than leadership knowledge.

Building upon the accumulated knowledge of the four discussed meta-studies, this fifth one by Lacerenza et al. (2017) highlighted more the LD delivery methods and found that some training methods may strongly impact the effects of LD programs. This finding indicates that training high-level leaders should identify their needs in advance and incorporate them with appropriate training methods. For example, determine leaders' requirements to build up the ability to deal with changes or problem-solving skills and then integrate a suitable training design, e.g., vicarious learning from others' challenging experiences. These practical techniques may be helpful in preparing leaders for challenging workplaces and alleviate some practitioners' dissatisfaction (as mentioned above, p. 22) (Gurdjian et al., 2014; Lipman, 2016). However, this meta-study by Lacerenza et al. (2017) did not clearly explain how to equip middle- and high-level leaders in regard to what kind of abilities were desirable and how to build them up accordingly.

To summarize the reviewed prior literature, leadership development is essential to help leaders and organizations to be able to lead in challenging workplaces. However, some leadership practitioners were sometimes strongly dissatisfied with the LD program (Feser et al., 2017). These five meta-analysis studies may explain the causes of dissatisfaction with some leadership development activities, especially in developing middle-level or senior leaders.

Given these findings from these five meta-analyses and other empirical studies, it appears that scholars have found that the effectiveness of LD training activities was positive in general. Yet LD results differed as a result of varied designs and delivery characteristics, and there were three issues identified, including (1) low effectiveness in developing leaders' problem-solving skills, (2) not fully taking notice of the requirement to develop leadership capabilities for dealing with challenges, and (3) not fully explaining how to adopt trainers' experiences in preparing leaders for challenging situations (Bezrukova et al., 2016; Day & Dragoni, 2015).

These three LD issues may explain why some organizations and leadership practitioners were disappointed with some extant LD investments. In addition, these findings suggest that some LD methods may improve the effects of developing middle-and high-level leaders to confront challenging circumvents, such as through vicarious learning from others' sharing (Barasch, 2020)and role-model (Watts et al., 2018).

For example, Burke and Day (1986) found that behavioural modeling, underpinned by the vicarious learning mechanism and the social cognitive theory, can effectively develop leaders' interpersonal skills (refer to p. 22). The social cognitive theory developed by Bandura (1986) is one fundamental social psychology theory and articulates adults learning procedures. Yet how it could be engaged in LD programs has been largely uninvestigated in the LD literature. The following literature review will briefly introduce the social cognitive theory and its impact on leadership development.

2.1.2. Social Cognitive Theory and Leadership Development

Albert Bandura initially reported that people could learn skills and behaviour by observing and imitating others (Bandura, 1962). Later, he deepened the insight into vicarious learning mechanisms by investigating role models' influence and the

reinforcement of subsequent performance through an experimental study (Bandura, 1965). By comparing pre-and post-results, this study found significant improvement in individuals' behavioural changes and performance improvement. This study demonstrated the major role of modeling in helping observers obtain skills by imitating models and changing their thought and action patterns (Bandura, 1965). In 1986, Bandura integrated the vicarious learning theory (modeling) and reinforcement theory into the social cognitive theory (Bandura, 1986).

In the social cognitive theory, Bandura highlights behavioural antecedents and consequences as social and cognitive elements (Sims & Lorenzi, 1992). Bandura (1986, p.47) states that 'Behaviour, cognitive and other personal factors, and environmental influences all operate interactively as determinants of each other', which affirms that a person is an active part of the mutual influence process in triadic reciprocity dynamics (see Figure 2).

Figure 2. Triadic Reciprocal Schematization of Social Cognitive Theory
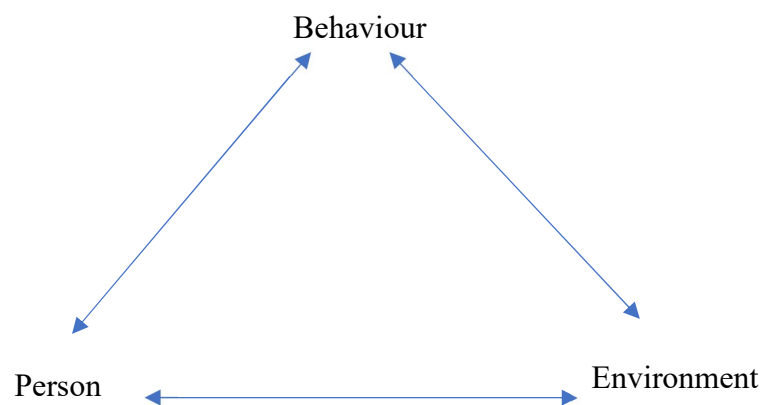
Bandura (1986, p. 47)

Bandura (1986) explains that learning is largely an information-processing activity in which information about the structure of behaviour and environmental events can be transformed into symbolic representations that guide action. Thus, individuals' behaviour

can be processed into environmental determinants and consequently can impact others'

behaviour and guide action. Utilizing the role modeling method, vicarious learning

mechanism, has demonstrated individuals can learn from observing others' behaviour in

children's development and adult learning areas (Bandura, 1986). This may connect with the

earlier review, which identified behaviour and behavioural changes and encouraged further

investigation of how others' experiences and personal attributes can benefit developing

leaders to deal with challenges. This motivates the current research to reveal how vicarious

learning occurs in a leadership development program.

In addition, the following literature review will reveal the existing studies focused on

effectively leading in challenging situations to understand the extant knowledge of dealing

with challenges and discover how vicarious learning mechanisms have been utilized in the

leadership area. This review may find what leadership capabilities are essential and identify

the respective development strategies.

2.2. Leadership in Challenging Situations

Leadership is a complex concept that may improve individual, organizational, and

social lives. The definition of leadership can link with different dimensions, such as traits,

skills, behaviour, or process. Northouse (2015, p. 6) clarified that "Leadership is a process

whereby an individual influences a group of individuals to achieve a common goal." Under

this definition, influence is the center that concerns how the leader affects followers and

vice versa. The influencing power may associate with a broad range of leadership attributes,

such as the leadership trait (Zaccaro, 2007), leadership skills (Mumford et al., 2000), and

leadership behaviour (Blake & Mouton, 1981), and will directly impact effectiveness in

various leadership contexts, such as challenging circumstances.

In contemporary globalized competitive, dynamic work environments, organizations have become increasingly demanding and stressful places (Sturm et al., 2017). Dealing with various challenges is crucial for leaders and has become an inevitable leadership responsibility. Challenge can be defined as a demanding task or other problems, which synonyms could be objection or difficulty (Oxford-University-Press, 2022). The Community Tool Box of Kansas University (2022) articulates, "Being a leader is in itself a challenge," and they categorize leadership challenges into three kinds: external (coming from people and situations), internal (stemming from within the leader himself), and those arising from the nature of the leadership role. Leadership challenges may display in diversified phenomena along with context changes such as environmental and discipline differences (Zhang & Tian, 2022). For example, the public health workers' mental health crisis is a major leadership challenge in the public health industry (Wiesman & Baker, 2022) in the contemporary COVID-19 pandemic age. Leadership challenges may be considered variously demanding to adopt multiple roles (Nalbandian et al., 2013) and develop a flexible disciplinary development system (Zhang & Tian, 2022). In addition, Uhl-Bien and Arena (2018) generally articulated one of the biggest leadership challenges is the need to enable organizations and leaders to be adaptable in the face of increasingly dynamic and demanding and demanding environments.

Thus, leadership challenges may be displayed in various phenomena along with time and context changing; dealing with changes is a leader's essential job (Gurr & Drysdale, 2020), and just as said, "Being a leader is in itself a challenge"(University-of-Kansas, 2022). Therefore, lacking focus on dealing with challenges in L&D programs may result in unsuccessful leadership outcomes. For example, Dotlich and Cairo (2003) investigated what caused CEOs to fail and found that these top leaders' undynamic thinking patterns and behaviours may damage their jobs and careers when facing challenges; they found that

leaders might fail to overcome the obstacles if they were unaware of the changes and were unable to adjust their fixed behaviour patterns during times of rising work stress. Roche et al.'s (2014) study also found that high levels of stress may counteract organizational performance and cause leaders' psychological problems, such as managerial burnout, anxiety, or depression (Roche et al., 2014). Work stress may indeed exacerbate physical health problems, such as heart disease (Crawford et al., 2010).

These issues, such as health problems working under pressure, were aligned with leadership practices and had been observed in instances of dealing with various challenges as a critical part of leaders' daily work decades ago (Kaluza et al., 2019; Lewis, 2000; Poole & Andrew, 1989). How to lead in challenging situations has thus received more attention. Thus, the current research reviews the existing studies focused on effectively leading in challenging situations and found four groups: adaptive leadership (Heifetz et al., 2009), flexible leadership (Yukl & Mahsud, 2010), leading under pressure (James & Wooten, 2010), and psychological resilience (Masten, 2001). Figure 3 provides a general introduction to these four groups of studies, including the key findings and how these extant studies help the current research to identify research gaps and determine research aims.

Figure 3. General Literature Review: Leadership in Challenging Situations

General literature review: Leadership in challenging situations

(1) Adaptive leadership (Heifetz et al., 2009)

Be adaptive to 3 styles challenges: technical, technical, and adaptive challenges

Strategies to deal with challenges:
1. awareness of challenges
2. regulate distress level
3. work hard

(2) Leading under pressure (James & Wooten, 2010)

Distinct challenges: effective leadership in crisis

Crisis management in five phases:
1. signal detection
2. preparation/ prevention
3. containment (damage control)
4. business recovery,
5. learning from critical experiences

(3) Flexible leadership (Kaiser & Overfield, 2010)

Meta-competency: behavioural flex, multiple leadership skills

Leadership strategies: multi-skills
1. build-up behavioural repertoire
2. meta-competency: flexible leadership style
3. problem solving skills

(4) Psychological resilience and leadership

Psychological resilience is the capability to help individuals and organizations bounce back and strive from adversities.

Psychological resilience is vital leadership capability and can help dealing with challenges and improve outcomes, e.g., performance, well-being, and leadership capability improvement

Research gap: The extant studies about leadership in challenges focused on some specific challenges or aspects. However, there is no emphasis of the need to develop leadership capabilities in challenges for the contemporary leaders. In addition, no formal theory in LD to focus on developing leadership in challenging situations. Psychological resilience has been proved its value in dealing with adversities. Therefore, this research will focus on how psychological resilience interact with leadership and how to develop leadership capabilities to deal with challenges.

2.2.1. Understanding challenges for Adaptive Leadership

Adaptive leadership, as a type of leadership approach, has been investigated as to how it encourages people to be adaptive to challenges (Heifetz et al., 2009). Under the model of adaptive leadership, Heifetz et al. (2009) categorized situational challenges into three types: technical challenges, technical and adaptive challenges, and adaptive challenges. Technical challenges can be defined and resolved. Technical-and-adaptive challenges can be defined but have no straightforward solutions. Adaptive challenges cannot be clearly identified or resolved easily.

Heifetz et al. (2009) suggested that adaptive behaviours targeted three strategies: identifying the adaptive challenge, regulating distress, and maintaining disciplined work attention. The first strategy was to be aware of the various challenges and prepare leaders to deal with them. The second strategy was to regulate distress levels because overwhelming distress could be incapacitating and counterproductive to individual leaders or organizations, which can be identified as leaders' capabilities of dealing with pressure. The third strategy was to maintain disciplined work attention, which referred to working hard even under pressure. Through these adaptive approaches, leaders can change both themselves and their followers' perceptions, beliefs, and behaviours. These changes toward being adaptive can activate leaders' capability to confront the identified adaptive challenges and thrive.

To be able to operate in VUCA conditions, adaptive capability has been investigated and recognized by other leadership studies. For example, DeRue (2011) proposed an adaptive leadership model, which might enhance a group's function through leading–following interactions and being more adaptive to challenges. Later, building upon adaptive leadership, Castillo and Trinh (2019) developed a new leadership model which

incorporated three fundamental capacities, i.e., absorptive, adaptive, and generative. In Castillo and Trinh (2019), absorptive capability refers to the ability to identify, integrate and apply information quickly. Similar to Heifetz et al. (2009), Castillo and Trinh (2019) defined adaptive capacity as the ability of leaders to become more fitted with the work environment, including modifying existing procedures and updating capabilities to meet new situational demands. Finally, leaders and organizations need to cope with complex problems, and these novel challenges require entirely new capabilities to be developed (Castillo & Trinh, 2019), which may help inform the needed LD focus.

All the above studies have recognized the environments as dynamic, uncertain, or VUCA (volatility, uncertainty, complexity, and ambiguity). Being able to adapt to challenging workplaces is the strategy that can help leaders and organizations succeed. However, the developmental strategies, such as in-class training or vicarious learning method through which leaders can build their adaptive abilities, remained under-revealed (Bradberry, 2012). Furthermore, some studies (Anderson et al., 2015; Mantha et al., 2016) reported that the in-class training could develop post-graduate students' or other trainees' adaptive leadership. However, these mentioned adaptive leadership studies (Anderson et al., 2015; Mantha et al., 2016) focused more on leaders' communication skills (presentation posture or listening skills) instead of adapting to challenging workplaces. In addition, other reviewed studies (Castillo & Trinh, 2019; Heifetz et al., 2009) emphasized being able to adapt to challenges was essential but lacked a clear developmental procedure. This may indicate the limitation of applying the adaptive leadership model to nurturing leaders' adaptive capabilities, and it encourages further investigation of the development procedure, such as the current research.

2.2.2. Flexible Leadership

To successfully lead in challenging contextualized circumstances, such as VUCA (volatility, uncertainty, complexity, and ambiguity) workplaces, scholars investigated different approaches. Kaiser and Overfield (2010) described leaders could obtain multiple skills and flexibly respond to challenges. This is a counter-argument to Heifetz et al. (2009), which suggested being adaptive to the constant unpredictable situational challenges. Kaiser and Overfield (2010) proposed that flexible leaders needed to set up their behavioural repertoire, which should include all opposite and similar skills and be able to perform in complex organizational systems. For example, effective communication requires mastering the two opposing behavioural capabilities of talking and listening. Thus, the behavioural repertoire enables leaders to respond to changes flexibly. Similarly, Norton (2010) articulated flexible leadership as a meta-competency perspective through which leaders can flex their leadership style to deal with shifting priorities along with changed situations. A wide behavioural repertoire and a learning orientation are always good, but the developing pathway is as yet unclear.

Yukl and Mahsud (2010) added an adaptive perspective to flexible leadership and explained that being flexible and adaptive aimed to find innovative ways to deal with new problems and opportunities. They explained that leaders should equip skills of challenge awareness that enable them to accurately identify and quickly respond to problems rather than to deny or delay challenges (Yukl & Mahsud, 2010). In addition, they argued that some largely accepted leadership styles, such as transformational leadership and servant leadership, were outdated leadership approaches and would fail to capture the unpredictable challenges in contemporary organizations. Thus, flexible and adaptive leaders shed light on developing new leadership capabilities and being able to shift leaders'

behavioural styles to confront work changes. Besides the recommendation to build up skills repertoires, the flexible leadership studies did not explicitly portray the developmental process of new leadership capability, such as problem-solving skills and the ability to deal with workplace challenges. The existing studies on flexible leadership led to difficulties in applying to LD programs, which may enable further investigations to reveal 'new leadership capabilities' and developmental strategies, such as the current research.

2.2.3. Leading Under Pressure

The third group reviewed effective leadership in dealing with challenges is leading under pressure, which focused on leadership capabilities of confronting crises. Crises, one type of severe challenge, are defined as significant challenging events that may bring highly undesirable outcomes for individual leaders, organizations, society, or stakeholders and require critical leadership competencies to be overcome (James & Wooten, 2010). Leading under pressure has been investigated for effectively leading in crises (James & Wooten, 2010). According to Wooten and James (2010), along with the development process, a crisis can be managed in five phases: signal detection, preparation (prevention), containment (damage control), business recovery, and learning from critical experiences.

James and Wooten (2010) stated that to manage an organizational crisis, leaders, especially top leaders, should be equipped with a core set of competencies, such as sense-making, perspective-taking, and influencing ability, that allowed them to determine the problems and execute an appropriate course of actions. Here, sense-making refers to the ability to understand complex circumstances and turn them into doable cases. Perspective-taking is the ability to recognize another individual or organization's perspective, which can consolidate leaders' and others' interests and perceptions. And influence ability is widely utilized when leaders make organizational plans to confront crises.

These proposed leadership capabilities by James and Wooten (2010) may help leaders confront crises and other severe challenges. Furthermore, to help organizations recover from crises, Brockner and James (2008) proposed other coping techniques, such as promoting organizational resilience, which adopted a 'crisis as opportunity' perspective and promoted thinking differently about what was possible for organizations. These extant studies on leading under pressure focused on top leaders' on-job experiences that can help executives gain required capabilities (e.g., sense-making, perspective-taking, and influencing ability) and prepare them to lead in crises (James & Wooten, 2010; Wooten & James, 2008). Compared to adaptive leadership (Heifetz et al., 2009) and flexible leadership (Yukl & Mahsud, 2010), which supported accepting challenges sometimes, leading under pressure (James & Wooten, 2010) suggested a more positive perspective to the crisis (perceive crisis as an opportunity). All these three groups reviewed studies displayed some effects of psychological resilience in its way (being adaptive, able to lead under pressure, or positive perspective), yet without explicit clarification. These inspire the following literature review of psychological resilience in coping with challenges, including its definition and how it works in leadership.

2.2.4. Psychological Resilience in Leadership

The word 'resilience' derives from the Latin word 'resiliere', which means to jump back or recoil. Resilience has been utilized in various fields such as ecology, material science, economy, engineering, and psychology to illustrate an individual's ability to help an organization or system return to normal conditions after an interruption (Hosseini et al., 2016). Psychological resilience has been used widely and defined in multiple ways. It has been defined as the capacity to maintain effective psychological and behavioural adjustment in the face of factors that generally put individuals at risk (Reber et al., 2009).

Another definition is that it is the developable capacity to bounce back from adversity and failure (Luthans, 2002), or the personal ability to recover, bounce back, or even thrive in a misfortune, change, or disaster (Earvolino-Ramirez, 2007). Although these definitions diverge, they all highlight three elements: overcoming adversity and setbacks, standing firm, and getting stronger or achieving higher goals.

Scholars have also found that psychological resilience, as part of personal assets, can protect an individual from the potential negative effect of stressors (Fletcher & Sarkar, 2013). An individual can show a high level of resilience by learning specific ways to deal with stress or living in a social environment that provides support sources (Masten, 2001). During times of great uncertainty, an organization's survival relies on its members' ability, including the resilience of employees and leaders, to persist and persevere despite facing adversity (Powley, 2009), which is associated with the finding of leading under pressure (James & Wooten, 2010). Resilience may be demonstrated in the capability at workplaces for organizations to survive and thrive in various challenges (Bhamra et al., 2011).

To explore how psychological resilience interacts with leadership at workplaces, extant studies have investigated resilience in some leadership contexts and reported sound positive impacts on outcomes. For example, researchers found that authentic leadership and transformational leadership can enhance followers' resilience and improved resilience eventually benefited work wellbeing, job satisfaction, and performance (Antonakis et al., 2003; Avolio & Gardner, 2005; Bass, 1998; Burns, 1979). Authentic leaders' behaviour, e.g., transparent communication and sincere feedback, may encourage and reinforce their followers and positively impact subordinates' psychological resilience (Anwar et al., 2019; Clapp-Smith et al., 2009; Zehir & Narcıkara, 2016). Similarly, transformational leaders may also enhance their subordinates' resilience by viewing threats as opportunities, and

consequently, followers can be convinced to believe that they are in charge and can own more of the responsibility for success (Bommer et al., 2005; Djourova Nia et al., 2020; Le et al., 2018).

Besides transformational and authentic leadership, scholars have investigated whether psychological resilience contributes to organizations in other leadership contexts, such as the DAC (direction, alignment, and commitment) leadership ontology (Drath et al., 2008). According to Drath et al. (2008), leadership effectiveness can be portrayed as DAC outputs in the short and long terms. When evaluating, social adaption (involving coping, surviving, and thriving) was the longer-term DAC outcome, which can demonstrate psychological resilience in action (Campbell-Sills & Stein, 2007; Windle et al., 2011). Thus, the findings of social adaption (i.e., coping, surviving, and thriving) showed that psychological resilience could broadly benefit leadership and beyond specific leadership styles. For instance, psychological resilience can help leaders confront individual and organizational challenges positively and maintain mental health (Dimas et al., 2018; O'Connor & Batcheller, 2015).

Recent research argues that managing followers' emotions is essential for leaders because of outcomes such as positive affect and reduced burnout (Pillay, 2020; Spiva et al., 2020). For example, studies have found that psychological resilience can help leaders deal with work pressure and improve job engagement (Hudgins, 2016; Sommer et al., 2016). Other studies have found that resilience is critical in bouncing back from setbacks (Dimas et al., 2018; Noumair, 2019) and is helpful when senior leaders confront a crisis (Patterson et al., 2009). These studies disclosed some insight into psychological resilience in leadership contexts, such as transformational, servant, or authentic leadership. However, the literature demonstrated less consensus concerning how psychological resilience

interacts and manifests within leadership to lead in challenging workplaces effectively. For example, whether resilience can only benefit some special leadership styles. Thus, a systematic literature review is needed to provide how psychological resilience is operationalized in leadership, which may deepen understanding of how psychological resilience can help leaders and organizations cope with work complexity and improve employees' and organizational outcomes. Furthermore, the following systematic literature review (chapter 2.3) will find existing knowledge in literature to support leadership competence development to deal with challenging situations.

Chapter 2.3: The Systematical Literature Review Written in Manuscript Form

Attribution Statements

Chapter 2.3 (Building-up Resilience and Being Effective Leaders in the Workplace—A Systematic Review and Synthesis Model) is published in the Leadership & Organization Development Journal.

Yu, M., Wen, J., Smith, S.M. and Stokes, P. (2022), "Building-up resilience and being effective leaders in the workplace: a systematic review and synthesis model", Leadership & Organization Development Journal, Vol. 43 No. 7, pp. 1098-1117. https://doi.org/10.1108/LODJ-09-2021-0437

The following authors contributed to this manuscript as outlined below.

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Name 3: Dr. Simon M Smith	10	X			X
Name 4: Professor Peter Stokes	5	X			

Contribution indicates the total involvement the author has had in this project. Placing an 'X' in the remaining boxes indicates what aspect(s) of the project each author engaged in.

By signing this document, the Candidate and Principal Supervisor acknowledge that the above information is accurate and has been agreed to by all other authors.

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Candidate   **Principal Supervisor**

2.3. Building-up Resilience and Being Effective Leaders in the Workplace—A Systematic Review and Synthesis Model

(Journal-published version)

2.3.1. Abstract

Purpose: Psychological resilience, defined here as the capacity to bounce back from adversity and failure, has been studied in various leadership contexts. However, the literature demonstrates less consensus concerning how psychological resilience interacts and manifests within the leadership role itself. This paper presents a step forward in this regard through a focus on the interactions between psychological resilience and leadership.

Design/methodology/approach: A systematic review employing 46 empirical studies followed a thematic synthesis within an associated model encapsulated as: *Building-up Resilience and Being Effective.*

Findings: First, resilience is identified as essential and can benefit individuals' and organizations' work outcomes across leadership contexts, including work performance, job engagement, well-being, and enhanced leadership capability. Secondly, leaders may build up their resilience by obtaining coping skills and improved attitudes toward challenges. Resilient attitudes, which are presented as paradoxical perspectives toward challenges, may help leaders adapt to challenges and adversities leading to beneficial outcomes.

Originality: Fundamentally, the synthesized model applied may encourage further studies to focus on how to build up resilience and practically apply it in workplaces instead of focusing on different leadership contexts. In particular, this study found that adopting paradoxical perspectives and ambidextrous leadership approaches toward adversities is an

original resilience development strategy, which serves to contribute to the gap in the literature.

Keywords: leadership, psychological resilience, work outcome, resilience development

2.3.2. Introduction

Along with increasing uncertainty and worldwide competition, organizational leaders play an essential role in surviving in an increasingly competitive environment (Crossan et al., 2017). Such environments can lead to high levels of stress and psychological disorders, e.g., managerial burnout, anxiety, or depression (Roche et al., 2014). Thus, organizational leaders certainly need to be equipped with the capacity to deal with complex and dynamic work requirements. Extant studies have found that psychological resilience, defined here as the capacity to bounce back from adversity and failure (Luthans, 2002), may help individuals cope with work complexity and improve employees' and organizational outcomes (Bargavi et al., 2017; Koen et al., 2013; Sommer et al., 2016; Su & Linderman, 2016).

Indeed, the behaviour of authentic leaders, for example, may positively impact their subordinates' psychological resilience and consequently benefit employees' outcomes (Anwar et al., 2019). Through transparent communication under an authentic leadership context, employees' resilience may mediate the relationship between leadership practices (e.g., awareness of challenges) and organizational creativity (Anwar et al., 2019). The above-mentioned studies have disclosed that psychological resilience may significantly impact leadership which is crucial for contemporary leaders and organizations to deal with challenges, whether day-to-day, strategic, or internal/ external to the organization.

However, the effects of resilience directly within leadership approaches are often divergent and inconsistent, e.g., improving organizational creativity (Anwar et al., 2019),

employees' job engagement (Gupta & Sharma, 2018), or team effectiveness (Dimas et al., 2018). These findings drawn from extant studies may lead to a misunderstanding of resilience, such as resilience being helpful only in some particular contexts (e.g., transformational leadership, authentic leadership), but not working in other circumstances, such as workplaces without leadership styles label. Furthermore, the mechanism through which psychological resilience interacts with leadership is unclear in terms of resilience's function (e.g., mediator or moderator) and leadership styles (e.g., specific leadership style, or across leadership contexts). In other words, the literature has not yet offered a consensus overview on how psychological resilience interacts with leadership delivery. It is unclear whether resilience as a leadership trait can positively impact leadership outcomes across leadership contexts or, alternatively, if it is helpful in some specific leadership styles, e.g., authentic leadership, transformational leadership, servant leadership.

Add to this the COVID-19 age, whereby the "disaster of uncertainty" with ambiguity about its nature and trajectory may be destined to have an ever strong psychological impact on leaders and employees that may extend far beyond the end of the pandemic season (Everly *et al.,* 2020). Resilience is expected to be more involved in workplaces to help individuals overcome various adversities or disasters (Arslan *et al.,* 2021, Kahn *et al.,* 2021). Thus, this study aims to advance understanding of how resilience is operationalized with leadership in workplaces and provide practical insights into building up individuals' resilience to confront changes, uncertainty, and other challenges. To address the above, we conduct a systematic literature review to present a landscape of studies focusing on psychological resilience and leadership via following the research question:

1. How is psychological resilience applied in a leadership context within workplaces?

The paper will bring up-to-date discussions around psychological resilience and leadership, as well as apply the trait of leadership resilience across a wider scope of leadership approaches. A paradoxical lens is subsequently applied and this includes ambidextrous leadership as a theory of focus.

2.3.3. Systematic Literature Review and Analysis Process

Psychological Resilience Enhancement and Dealing with Challenges

Positive effects of resilience have been observed in various contexts, such as: child development (Martinez-Torteya *et al.,* 2009); patient care (Koral and Cirak, 2021); and, the military (Pietrzak and Cook, 2013). Martinez-Torteya *et al.* (2009) suggested that children who had been exposed to domestic violence (DV) (family violence, normally male toward female partner) were more likely to develop emotional and behavioural problems than non-exposed children. The study (Martinez-Torteya *et al.,* 2009) found that the resilience of a sub-group of DV exposed children is higher than the nonexposed group (around half of the investigated sample) did not show behavioural or emotional problems. Furthermore, Koral and Cirak (2021) found that psychological resilience can support patients, such as women with breast cancer , to reduce the ongoing fear of recurrence and, consequently, benefit patients' well-being. Additionally, in the military, exposure to traumatic events is a risk factor that may lead to severe psychological distress (Isaacs *et al.,* 2016). Pietrzak and Cook (2013) found that (1) moderate-level trauma may improve veterans' resilience, and (2) a higher scored resilient group of veterans, compared to the low-level resilient group, equally reported more positive perceptions of the military's effect on their lives and social engagement. Therefore, extant studies have provided plenty of evidence to support the potential for psychological resilience and its developable characteristics, whether either helping children confront family violence or supporting individuals overcome disease and

conflict post-trauma. In particular, it is perhaps important to note that, frequently, these studies underlined that experiencing *moderate* adversities may improve individuals' resilience across a range of the population from children to adults/veterans (Martinez-Torteya *et al.,* 2009; Pietrzak and Cook, 2013).

Psychological resilience has been investigated in various leadership contexts, such as transformational leadership (Dimas *et al.,* 2018), authentic leadership (Anwar *et al.,* 2019), and some other contexts (Tau *et al.,* 2018) and found that leaders' supportive behaviour can enhance employees' resilience and positive outcomes. For example, employee resilience mediates the relationships between organizational commitment and job burnout (Meng *et al.,* 2019), or resilience can be a moderator in displaying a higher overall life satisfaction (Shelton *et al.,* 2019). Thus, these above-studies investigate resilience and report divergent underpinning mechanisms pertaining to *how resilience interacts with leadership and how to develop it*. Nevertheless, there are additional interesting questions concerning resilience and leadership, such as which factors may influence resilience and how to build up individuals' resilience effectively. Nguyen *et al.* (2016) found that a proactive personality is an influencing factor of resilience. Furthermore, Elkington and Breen (2015) disclosed that supportive coaching and experiencing challenges might help senior leaders improve their resilience. Due to the divergent investigations and varied results about psychological resilience in workplaces, the systematic literature aims to deepen insights into the operationalizing mechanism of *resilience within leadership*, and reveal influential factors and present practical development strategies.

Systematic Literature Review Search Strategy

All peer-reviewed empirical articles that include both leader* (for leader, leaders, and leadership) and resilien* (resilience, resilient, and resiliency) as keywords or research

subjects are included in this review. As psychological resilience and leadership are multi-discipline, overlapping subjects such as psychology, management, and social science, the inclusion of this review is derived from a keyword-based search in three subject-related databases: PsycINFO, ABI/INFORM, and Social Science Database.

All publications included relating to studies concerning the psychological resilience of leaders and subordinates within industrial organizations. We focus on peer-reviewed scholarly journal articles in English with the cut-off date of 4th July 2021, to include all the latest publications. Any books, dissertations, non-peer-reviewed articles, and theses are excluded. The search procedure is presented in Figure 2.

Figure 3. The Articles Selection Flowchart
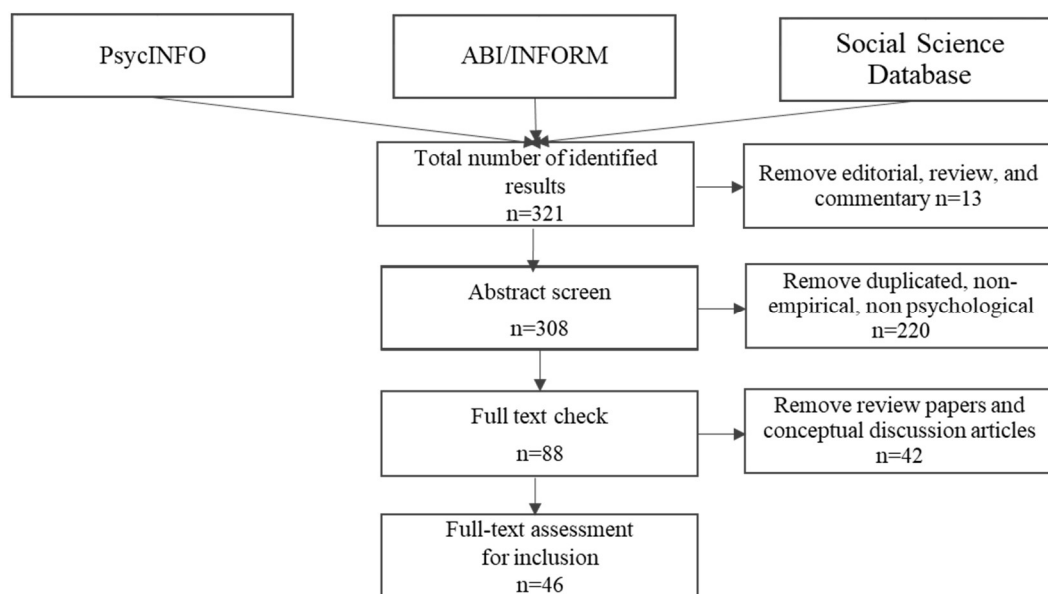
The first step yielded 321 articles with the inclusion criteria. The second step removed 13 editorials, reviews or commentary articles, leaving 308 articles. The third step screened abstracts to remove 220 articles, including duplications, non-empirical studies, non-psychological resilience studies (e.g., environment resilience), or military contexts. The rationale for excluding studies in a military context relates to their nuanced

environments and experiences, as well as military occupations being arguably not directly comparable to most other occupations (Bartone et al., 2013). The fourth step involved full-text checking of the remaining 88 articles and removal of 42 review papers, conceptual discussion, and non-empirical reports. Finally, 46 peer-reviewed empirical articles were chosen that fully met the systematic literature review requirements for this study.

The first identified study focused on the association of psychological resilience and leadership was published in 2004 (Harland et al., 2004). This study initiated the focus on leadership impacts on others' resilience and found that transformational leadership behaviour can positively influence subordinates' psychological resilience. After that, more studies were published over time, including eight in 2019.

Review Questions and Data Analysis

This study aims to provide a collective overview of how psychological resilience operationalizes in leadership and address the following research question: (1) How is psychological resilience applied in a leadership context within workplaces? The data analysis is guided by four review questions identified to obtain the collective knowledge in the reviewed literature: (1) What is the research approach, namely the methodology, method, context, sample, and analysis procedure?; (2) What kind of factors can influence psychological resilience?; (3) What kind of outcomes of resilience are found?; and (4) What kind of leadership styles are investigated?

Data analysis methods and processes of a systematic literature review, including coding and synthesis, vary considerably depending on the research aims (Gough et al., 2017). We apply a thematic summary that combines primary statistical (quantitative data)

and non-statistical (qualitative data) findings of reviewed studies to present an overview of the key characteristics (Gough et al., 2017). This study employs a Data-Analysis Process in a Systematic Literature Review facilitated with QDAS-NVivo 12 by involving a two-step open-coding and two-step theory-constituting approach (Yu & M Smith, 2021) in a systematic literature review (shown in Figure 4).

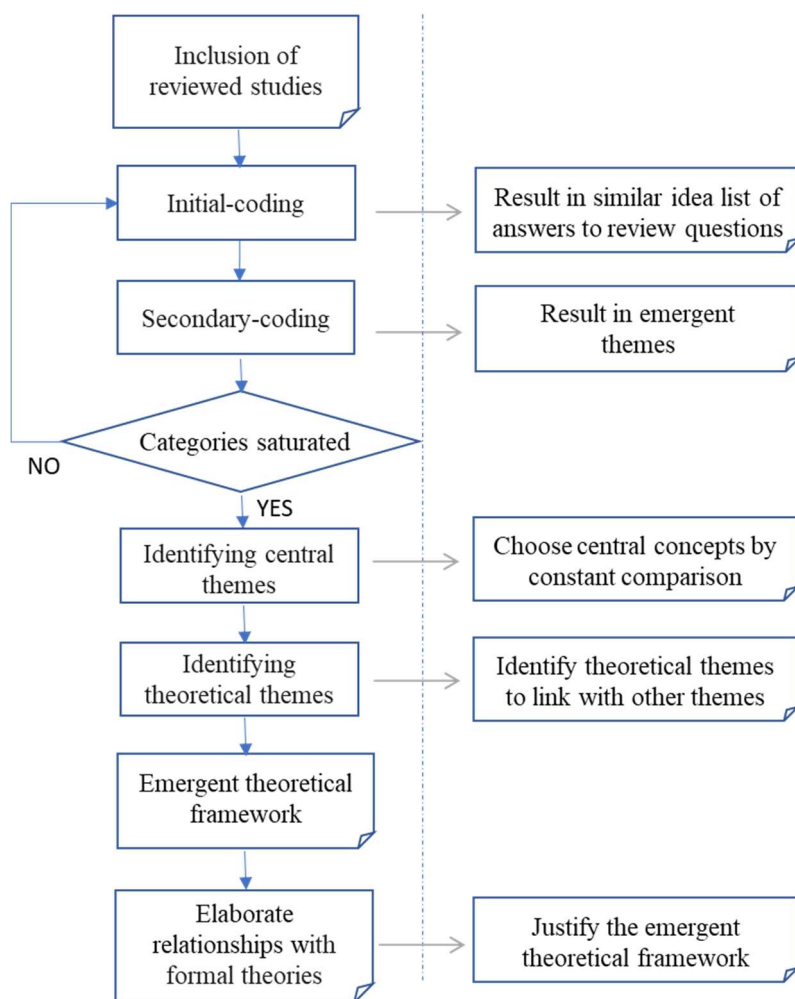**Figure 4 .** Data-analysis Process in a Systematic Literature Review

Table 1. The Summary of Included Studies

	Author	Country	Research method	Industry	Sample	Sample number	Data collect
1	(Harland et al., 2004)	USA	quantitative	education	MBA students	150	survey
2	(Maulding et al., 2012)	USA	mixed methods	education	doctoral students	48	open-ended survey
3	(Koen et al., 2013)	4 countries	qualitative	healthcare	healthcare leaders	148	intervention
4	(Everly Jr et al., 2013)	USA	quantitative	healthcare	historical scholars	123	survey & observation
5	(Howard & Irving, 2014)	USA	quantitative	across industry	leaders	167	survey
6	(Bande et al., 2015)	Spanish	quantitative	across industry	salespeople	209	survey
7	(O'Connor & Batcheller, 2015)	USA	qualitative	healthcare	nurse leaders	12	in-depth interview
8	(Reed & Blaine, 2015)	USA	quantitative	education	school leaders	113	resilience profile
9	(Elkington & Breen, 2015)	USA	qualitative	across industry	senior leaders	17	in-depth interview
10	(Nguyen et al., 2016)	New Zealand	quantitative	across industry	employees	269	online survey
11	(Sommer et al., 2016)	Canada	quantitative	healthcare	leaders & employees	478	survey
12	(Brendel et al., 2016)	USA	quantitative	across industry	leaders	41	leadership program
13	(Su & Linderman, 2016)	USA & Taiwan	quantitative	manufacturing	business units	147	online survey
14	(Hudgins, 2016)	USA	quantitative	healthcare	nurse leaders	89	survey
15	(Zehir & Narcıkara, 2016)	Turkey	quantitative	across industry	white-collar workers	645	survey & interview
16	(Forster & Duchek, 2017)	German	qualitative	across industry	leaders	27	interviews
17	(Teo et al., 2017)	Singapore	qualitative	healthcare	key decision-makers	7	interviews
18	(Bargavi et al., 2017)	India	quantitative	IT industry	young leaders	525	survey
19	(Wang et al., 2017)	China	quantitative	IT industry	sales workers	422	survey
20	(Mahmud, 2017)	Bangladesh	quantitative	Construction	project managers	15	survey & case study
21	(Grant et al., 2017)	Australia	mixed methods	healthcare	leaders	31	intervention
22	(Sardar & Galdames, 2018)	UK	qualitative	education	school leaders	3	interviews
23	(Dimas et al., 2018)	Portugal	quantitative	across industry	employee & leaders	535	survey

Table 1: The Summary of Included Studies -continued

	Author	Country	Research method	Industry	Sample	Sample number	Data collect
24	(Tau et al., 2018)	Africa	quantitative	healthcare	managers & nurses	290	survey
25	(Gupta & Sharma, 2018)	India	quantitative	transport	leaders	328	survey
26	(Franken et al., 2019)	New Zealand	quantitative	public service	employees	222	cross-sectional survey
27	(Meng et al., 2019)	China	quantitative	public service	civil servants	236	cross-sectional survey
28	(Thude et al., 2019)	Denmark	qualitative	healthcare	nurses & physician	2	interviews & discussion
29	(Shelton et al., 2019)	USA	mixed methods	across industry	EMBA students	101	survey & interview
30	(Cooke et al., 2019)	China	quantitative	bank	banking workers	2025	survey
31	(Caniëls & Hatak, 2019)	Holland	quantitative	public service	defense employees	123	2 studies cross-sectional
32	(Kodama & Dugan, 2019)	USA	quantitative	education	college students	2223	survey
33	(Zhu et al., 2019)	China	quantitative	education	academics & students	538	2 studies cross-sectional
34	(Spiva et al., 2020)	Holland	quantitative	healthcare	charge nurses	41	pilot training program
35	(Sundermeier et al., 2020)	German	qualitative	investment	experts	29	interview
36	(Pillay, 2020)	South Africa	quantitative	education	female leaders	255	cross-sectional approach
37	(Tian & Bush, 2020)	China	qualitative	public service	female leaders	6	in-depth interview
38	(Djourova Nia et al., 2020)	Spain	quantitative	social services	employees	225	two waves survey
39	(Lin & Liao, 2020)	China	quantitative	across industry	leaders & employees	222	survey
40	(Çop et al., 2021)	Turkey	quantitative	service	employees	351	survey
41	(Shin & Park, 2021)	Korea	quantitative	across industry	leaders	228	survey
42	(Crosweller & Tschakert, 2021)	3 countries	mixed methods	across industry	leaders	89	survey & interview
43	(Howard & Irving, 2021)	3 countries	quantitative	across industry	leaders	365	survey
44	(Sanfuentes et al., 2021)	Chile	qualitative	mining	miners	33	case study
45	(Li & Tong, 2021)	China	quantitative	across industry	leaders & employees	857	survey
46	(Chance, 2021)	USA	qualitative	education	leaders	9	interview

In a grounded theory study, the open-coding method, including initial-coding and secondary-coding, is a sensitive interpretation procedure without basing a prescribed conceptual framework and results in a master list of repeating ideas. Constant comparison is the key technique used in categorizing repeating ideas in the master list (output of initial-coding) into themes (Glaser & Holton, 2007). By contrast, the two-step theory constitution method is to identify the emergent theoretical framework by identifying central themes and theoretical themes in two steps.

The first step is to select and choose the core themes from the list of emergent concepts. After that, the next step is to find theoretical themes (codes) and build-up the relationship between central themes and consequently constitute the substantive theory. As an example here, one study focuses on disclosing characteristics that impact the effectiveness of a leadership development program. The emergent themes constitute a broad list, including leaders' personalities (e.g., ambition, empathy, hardness, humble, etc.) and challenging experiences shared by speakers. By constant comparison, challenging leadership experience is defined as a central theme as it is the most frequent theme emergent from the data. Central themes are closely related to other emergent themes, and it is crucial to develop a theoretical framework.

QDAS-NVivo has been proven to facilitate data management, data analytics, and visualization analyzing processes (Bazeley, 2007; Hutchison et al., 2010). NVivo 12 can facilitate the data analyzing process conveniently, such as creating and re-organizing coding nodes, visualizing, and sharing the project. Thus, this study conducted the analysis on NVivo 12 by following the author-designed data analysis process in a systematic literature review.

2.3.4. Results

The thematic synthesis is derived from the findings of 46 reviewed articles listed in Table 1. The results and related themes are presented according to the review questions outlined in the last section. In the 46 reviewed articles, three types of research methods are identified, which are quantitative (67%, 31 papers), qualitative (24%, 11 papers), and mixed-method (9%, four papers). All the inclusion articles investigated resilience at the workplace as one key research subject: 23 studies focused on leaders' resilience; 18 reviewed studies focused on employees' resilience; and, five focused on organizational resilience.

In all the reviewed studies, 66% of the included articles (31 papers) collected data by a self-reported survey and other quantitative approaches. The investigated industries included industry, healthcare, and public service. In total, 13,120 participants from 22 countries are involved in the 46 reviewed articles, which include leaders (e.g. school leaders, nurse leaders, and company decision-makers) and employees (e.g. nurses, white-collar workers, college students, and sales workers).

Influence Factors and Building-up Factors of Psychological Resilience

By following the Data-analysis Process in a Systematic Literature Review, five sub-themes emerged from open-coding and constant comparison analysis, including personal characteristics, interpersonal factors, supportive environment, leadership behaviour, challenging experiences, and interventions (coaching and training). These five sub-themes were organized into two main themes: 'Influence Factors' and 'Building-up Factors' according to their different effects on resilience (see **Table 2**). The reviewed studies found that Building-up Factors (interventions and experiences of coping challenges) may significantly improve employees' or leaders' resilience, which suggests that resilience can be developmental. By contrast, personal factors, interpersonal factors, and supportive

environments may influence individuals' or organizational resilience without explicating whether these factors may strengthen resilience.

Table 2. Themes of Influence Factors and Building-up Factors

Themes	Sub-themes	Article-No
	Personal factors	
	dark-side of personality	31
	differentiation of self	5
	individual factors	15
	leadership traits	16
	optimism	10
	proactive personality	10
	Interpersonal factors	
Influence factors	alignment	37
	co-worker support	30
	emotion tie	28
	insider identity	33
	positive affect	11,36
	Supportive environment	
	5 types supportive leadership behaviour	10,11,15,23,30,38,40
	job-related factors	15
	perceived organizational support	26
	perceived supportive environment	16,31,36
	Coping challenges	
	adversity	9, 46
	experiencing job loss	7
	obstacles	5, 43
	performance pressure	30, 44
Building-up factors	resistance	37
	Training & interventions	
	leadership coaching	21,22
	Leadership-Hub intervention	3
	mindfulness	12
	spiritual practice	29, 43

The first sub-theme, personal factors, refers to proactive personality, optimism, the dark-side of personality, promotion focus, leadership traits, differentiation of self, and individual factors, as these represent a varied personality aspect. Secondly, interpersonal factors include alignment, emotional tie, insider identity, and positive affection, as these

demonstrate the interpersonal relationship or emotional connection. The third sub-theme, supportive environments factors, contains supportive networks, work environment, job-related factors, co-worker support, and perceived organizational support (POS). Similarly, five types of leadership behaviours are perceived as supportive work environment factors: transformational leadership, contingent rewards leadership, empowering leadership, supportive leader, authentic leadership.

The fourth sub-theme, Coping challenges, is categorized as a building-up factor as these experiences, e.g., adversity, resistance, job loss, obstacles, and performance pressure, are effective in developing an individual's resilience. Similarly, leadership coaching and training and some other interventions, such as leadership Hub intervention, mindfulness, and spiritual practice, are categorized as building-up factors as they had shown to be effective in developing resilience.

Contributions and Outcomes of Resilience

Analyzing the contribution of resilience also follows the two-steps coding process, including open-coding and consistent comparison. The first step, initial-coding, directly identified all reported outcomes from reviewed studies, which resulted in an outcome list of resilience. In total, 20 kinds of concepts were identified as individual or organizational outcomes. Through secondary-coding with constant comparison, the 200 types of outcomes resulted in four emergent sub-themes: (1) Performance, (2) Job satisfaction and engagement, (3) Well-being and mental health, and (4) Improved leadership capacity (see **Table 3**). This categorization is aligned with the most common leadership outcome criteria, e.g., behavioural measures (job performance), attitudinal measures (job satisfaction), and relational perception (Bedi et al., 2016; Hoch et al., 2018).

Table 3. Four Sub-themes of Resilience's Outcomes

Sub-themes of outcomes	Article No
Performance	
ERP extra-role performance	25
performance	37
productivity	15
team effectiveness	23
team viability	23
Job satisfaction and engagement	
anticipated turnover	14
employee engagement	25
interpersonal adaption	27
job satisfaction	14
organizational commitment	27
turnover intension	6
work engagement	19
high-involvement	27
Well-being and mental health	17
overcome emotional exhaustion	6
well-being	27
Improved leadership capacity	38, 43
able to lead	20
empowering leader behaviours	24
higher leadership quality	24,34
improved leadership behaviour	2,18,24
coping skill	37, 43, 46

Psychological Resilience Operationalizes within Various Leadership Styles

In the 46 reviewed articles, 20 studied resilience interacting with leadership generally, while the other 23 investigated 14 types of leadership, such as transformational leadership, empowering leadership, authentic leadership, and leader-member exchange (see **Table 4**).

Table 4. Psychological Resilience in Fifteen Leadership Styles

Leadership Style	Key Findings	Article-No
Transformational leadership	1. Transformational leadership attributes positively impact subordinates' psychological resilience. 2. Transformational nurse leaders' resilience can be developed through a training program.	1, 4, 11, 19, 23, 34,38,40
Authentic leadership	Authentic leaders' transparency and self-awareness could positively influence subordinates' productivity through improved resilience.	15
Charismatic leadership	Charismatic leadership behaviours can improve organizational resilience and positively impact organizational performance	17
Contingent leadership	The positive association between employees' resilience and contingent-reward leadership.	10
Empowering leadership	1. Positive association between employee resilience and empowering leadership. 2. Empowering leader behaviour of nurse managers significantly enhances employees' motivation and job engagement.	10, 24
Hubristic leadership	Resilience may help hubristic leadership persist under problems.	35
Humble leadership	Humble leadership could predict employees' resilience through work-related promotion and perceived insider identity.	33
Leader-member exchange	Leader-member exchange (LMX) and employee resilience can influence organizational performance and lessen employees' burnout.	25, 27
Paradoxical leadership	Employees' resilience can be directly fostered by Paradoxical leadership behaviour can be mediated by organizational support.	26
Resilient leadership	Highlighted the importance of resilient leadership and described the attributes by evaluating the resilient leadership profile.	4
Servant leadership	Salespeople's resilience and emotional intelligence directly influence their intention of turnover, which is moderated by servant leadership.	6
Supportive leadership	Supportive leadership and co-worker support are positively associated with employees' resilience by enhancing coping skills.	30
Shared leadership	Collective sensemaking and dealing with the complexity of emotional experiences may activate resilience resulting from facing adversity	44
Narcissistic leadership	Narcissistic leadership has a positive effect on goal-directed energy, which in turn enhances employee resilience	45
Crucible leadership	Crucible adverse experiences may develop the necessary leadership skills	46

Firstly, six studies investigated how transformational leadership influences leader or subordinate resilience, job engagement, or productivity (Articles 1, 4, 11, 19, 23,34,38, and 40). Secondly, empowering leadership, demonstrated as sharing power and coaching employees, is linked to improvement in leaders' and employees' resilience and performance (Tau et al., 2018) (Article 24). Authentic leadership (Howard & Irving, 2014) and Leader-member exchange (Meng et al., 2019) are argued to potentially positively influence subordinates' resilience and productivity by demonstrating their transparency, self-awareness, and lessening employees' burnout. Another study by (Teo et al., 2017) investigated the association between leadership behaviour, employee engagement (EE), and organizational performance. These studies found that both leader-member exchange (LMX) and employee resilience can influence organizational performance mediated by EE (Gupta & Sharma, 2018) and lessen employees' burnout (Meng et al., 2019).

To summarize, the reviewed studies investigated psychological resilience operationalized in 15 types of leadership and reported benefits of resilience through the various roles, e.g., mediator (Zhu et al., 2019), moderator (Cooke et al., 2019), or predictor (Pillay, 2020) within outcomes. Furthermore, four leadership styles – transformational leadership, empowering leadership, authentic leadership, and leader-member exchange – are argued to create a supportive work environment that may enhance employees' resilience.

2.3.5. Findings and Discussion

By constantly comparing the emergent themes and sub-themes, psychological resilience in workplaces (resilience of leaders, employees, or organizations) is identified as the central theme. All reviewed articles took resilience at the workplace as one key subject and examined its associations with either influence factors, build-up factors, or outcomes (performance, well-being, job satisfaction, or improved capability). This refers to the grounded theory's definition of the central theme, which has the most frequent relationships

with other themes, e.g., outcomes and influence factors here (Glaser & Holton, 2004). Thus, the theme of Psychological resilience in workplaces is identified as the core theme, which is affected by Influence and Build-up factors and consequently benefits Outcomes, which may be demonstrated as improved work performance, job satisfaction, well-being, or enhanced leadership capabilities. Therefore, the identified central theme and related theoretical themes constitute the emergent theoretical framework Building-up Resilience and Being Effective (see **Figure 5**).

Figure 5. The Model of Building-up Resilience and Being Effective
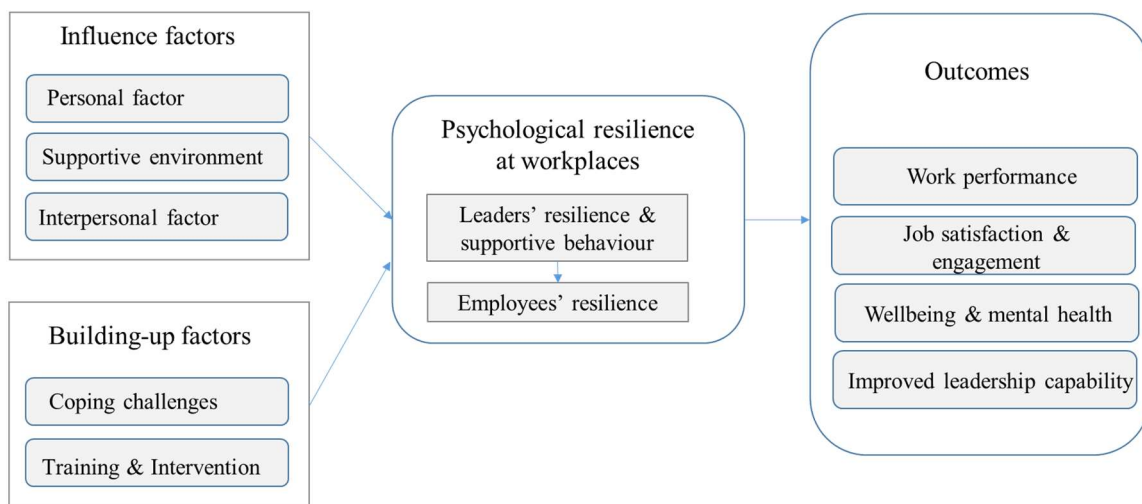
Fundamentally, this Building-up Resilience and Being Effective Framework originally offers a collective knowledge about how psychological resilience is operationalized in leadership by systematic review and synthesis findings of 46 reviewed articles. This framework integrates three key findings: (1) Psychological resilience is an essential capability across leadership styles; (2) Psychological resilience can be influenced and developed by personal factors, supportive environment, challenging experience, training, etc.; and (3) Psychological resilience at workplaces can directly or indirectly improve work performance, leadership capacity, job satisfaction and engagement, well-being, and job satisfaction. From one side, the current study deepens the understanding of resilience in the

workplace. The synthesized result highlights resilience's essential role by being reported broader outcomes in diverse leadership contexts. On the other side, the current study presents insights into developing resilience through supportive work environments and challenging experiences.

Psychological Resilience—Essential Leadership Capability

By synthesizing the effects of resilience in 15 leadership styles, the current study confirms that psychological resilience is essential in leadership across contexts. No matter the work context, psychological resilience can enhance leaders' ability which will improve leaders' or employees'' performance, well-being, mental health. This finding is yielded from the various and diversified results reported in reviewed articles. For example, eight reviewed articles have found that transformational leadership may influence leaders' or subordinates' resilience, job engagement, or productivity. The study by Harland et al. (2004) analyzed the relationship between psychological resilience and five transformational leadership dimensions by collecting data from 150 MBA students in the USA, which found a significant association between leaders' charismatic and inspirational behaviours and subordinates' resilience and well-being. In addition, other studies have investigated psychological resilience operationalized within different contexts, including charismatic leadership (Teo et al., 2017), authentic leadership (Zehir & Narcıkara, 2016), empowering leadership (Tau et al., 2018), contingent leadership (Camps & Torres, 2011), hubristic leadership (Claxton et al., 2015), humble leadership (Zhu et al., 2019), leader-member exchange (Teo et al., 2017), paradoxical leadership (Franken et al., 2019; Smith, 2016; Smith & Butler, 2021), servant leadership (Nguyen et al., 2016), and supportive leadership (Cooke et al., 2019). Even though these studies investigated resilience in diverse leadership contexts and reported varied function roles, e.g., mediation (Franken et al., 2019) or moderation (Cooke et al., 2019), most reviewed studies supported that leaders' behaviours

can improve individuals' (leaders and employees) resilience through supportive environments. In turn, improved resilience will positively impact work outcomes, including well-being, work engagement, and performance. Therefore, the finding of the current review emphasizes that as the essential quality, resilience can advance work outcomes across any leadership style and context. This finding may encourage organizations or society to promote psychological resilience, including developing resilient attitudes via adopting a paradoxical perspective, to deal with adversities and uncertainties. .

Adopting Paradoxical Perspective and Building-up Resilience

The current study gains some insights into developing psychological resilience by using paradoxical perspectives. The term of paradox is a long philosophical and rhetorical term that consists of two contrary propositions, which normally lead to apparent arguments (Poole & Andrew, 1989). Paradox highlights opposites, and eastern roots apply paradox as a lens for exploring the nature of existence, such as light-dark (Schad et al., 2016). The paradoxical lens is a type of perspective that considers the both-and perspective of the contradictory sides in paradoxes (Schad et al., 2016). Scholars have applied a paradoxical lens to perceive organizational challenges, which interprets challenges from both positive and negative perspectives (Smith & Lewis, 2011). In the paradoxical lens, challenges may cause stress and problems and meanwhile may associate with opportunities. In the reviewed articles, seven studies have found the positive effects of the negative cases, e.g., obstacles (Howard & Irving, 2014), job loss (O'Connor & Batcheller, 2015), adversity (Elkington & Breen, 2015), performance pressure (Cooke et al., 2019; Sanfuentes et al., 2021), and other work resistance (Tian & Bush, 2020).

Other studies have reported that adversities, such as depression or anxiety, are not only associated with job loss and negative emotions but also shown positive effects on well-being and enhanced coping skills (Mancini, 2019; Seery et al., 2010). A recently reviewed

article investigated the role of adversities in developing Black women leaders in USA higher education and found that leaders' adverse life experiences may be transformed into resilience and promote their later leadership development (Chance, 2021). Adversities were as these female leaders' fuel to overcome adverse crucible experiences, thus developing the necessary leadership skills. Additionally, other studies also demonstrated how to learn knowledge and skills from failed projects (Kohler et al., 2018) or other failure cases (Catalano et al., 2019; Krieger, 2021) and improve capabilities for future tasks. All these studies display that adversity may also demonstrate positive effects: learning coping skills from failure experience. The experiences of dealing with challenges may help individuals obtain coping skills and prepare the mindset to respond to adversities. These studies demonstrated the function of paradoxical perspectives, especially in challenging situations.

More importantly, paradoxical perspectives may help leaders and employees to increase their awareness of challenges and focus on both the negative and potential positive aspects. The current systematic literature review found that supportive leadership behaviours, such as transformational, authentic, empowering, and supportive work environments, may encourage employees to be more adaptive and able to endure work challenges. Adaptive to challenges and persistence under pressure may be recognized as resilient attitudes, and this is aligned with the commonly accepted resilience criteria (Campbell-Sills & Stein, 2007; Windle et al., 2011). Through paradoxical perspectives, individuals may transform their perception of challenges from being afraid of failures to adapt to challenges, which will help them become more resilient and better endure the work pressure. In other words, the paradoxical lens to challenges may be identified as a resilient attitude. Adopting a paradoxical perspective may help leaders and employees increase their awareness of challenges, focus on both the negative and potential positive aspects, and consequently improve their resilient attitudes. These findings can be utilized broadly in practices such as leadership development programmes,

talent management, and other human resource activities. In addition, this may align with the recommendation of building up resilience from the American Psychological Association (2020) and be utilized in daily leadership practice beyond workplaces, such as within a family setting and personal relationships.

Thus, promoting paradoxical perspective and resilient attitudes may help individuals and organizations to prosper during challenging times. Attitudes have been acknowledged as a determinant of observed behaviour broadly since the 1970s (Fazio *et al.,* 1983). Individuals with a resilient attitude tend to develop positive coping strategies to move across, demonstrate better capacities to buffer the negative impact of challenges, and subsequently show a flourishing state despite adversities (Gerino *et al.,* 2017). By adapting to changing circumstances with resilient attitudes, individuals can be empowered to take active steps through difficult circumstances and thus bounce back to normal or better well-being (Luthans *et al.,* 2007). By adapting to changing circumstances with resilient attitudes, leaders can be empowered to take active steps through difficult circumstances. When responding calmly to an extreme challenge, leaders can maintain their emotional stability, behave resiliently, and thus be able to confront challenges.

Moving forward, and following this discussion of paradoxical perspectives, 'ambidextrous leadership' could help to assist in coping with the complexities of paradox within psychological resilience in leadership. Ambidextrous leadership is related to Organizational Ambidexterity and is a theory pertaining to paradox (Smith and Butler, 2021). The theory, in simplistic terms, addresses and tackles two polar opposites, namely *exploitation* and *exploration* (Birkinshaw and Gupta, 2013; O'Reilly and Tushman, 2013). In broad terms, the former emphasises efficiency, reducing costs and keeping within 'the known', and the latter is in line with innovation, experimentation, flexibility and expanding into 'the unknown' (Smith, 2016). For resilience and ambidextrous leadership, the emphasis

here is not on those specific organisational practices, but is more about having the ability to offer radically different leadership approaches to suit the situation needed. As an example, to manage crises and effectively develop psychological resilience within leaders, there is a need to balance multiple stakeholders, e.g. the needs of the business and/versus the needs of its people. During a crisis (e.g. COVID-19), a single approach to leadership could prove ineffective for one of the key stakeholders (depending on the style adopted). Thus, ambidextrous leadership could offer a different way of thinking, could highlight a need for agility in leadership skills and could be considered as a potential framework for developing psychological resilience in leaders. This could be one pathway for future research. To summarize, the current review deepens understanding of resilience development in two aspects by perceiving challenges through the paradoxical lens. Firstly, adverse experiences may help leaders improve coping skills and subsequently enhance leadership capabilities. Secondly, paradoxical perspectives in terms of challenges can be considered as resilient positions/outlooks, which may help leaders and employees adapt to challenges and endure pressures. These findings may encourage innovative practical applications of a paradoxical lens during such adversities, respond with resilient attitudes, and gain coping skills from related experiences.

2.3.6. Recommendations for Future Research

Even though this study provides a deeper understanding of the essential function of psychological resilience in leadership, the findings are limited to the workplace contexts investigated, e.g. exploring small sample sizes (13,019) or country contexts (22). Future research could expand the rhetoric around interactions between psychological resilience and leadership. Furthermore, the underlining mechanism between the paradoxical perspective and resilient attitudes is still largely unclear. Thus, more research is needed to disclose the interaction of paradoxical perceptions and leadership resilience. Further research can

investigate how resilient attitudes demonstrate in actions in dealing with challenges and adversities.

The second recommendation is regarding theoretical development about resilience in the leadership discipline. Psychological resilience is considered a critical ability for effective leadership and is positively associated with 15 different leadership styles, such as transformational leadership, servant, and authentic leadership. Unfortunately, leadership resilience has not been depicted as a unique leadership capability. Further studies can explore and acknowledge the conceptual framework of leadership resilience. Most prominently, future research could investigate how leaders' resilience is demonstrated in challenging situations as dealing with various leadership challenges has become normal for contemporary leaders. These future studies will theoretically enrich the leadership resilience construct and identify more practical contributions.

The third recommendation is to investigate the impact of psychological resilience on life-satisfaction. Previous studies have illustrated that challenges are unavoidable and may result in depression and anxiety. These studies may reveal whether psychological resilience can impact life-satisfaction and how to improve mental health and individuals' and organizations' performance eventually and contribute to leadership development practice broadly, including human resource recruiting and talent development.

2.3.7. Limitations

Even though this study provides a deeper understanding of the essential function of psychological resilience in leadership, the findings are limited to the workplace contexts investigated, e.g. exploring small sample sizes (13,019) or country contexts (22). Future research could expand the rhetoric around interactions between psychological resilience and leadership. Furthermore, the underlining mechanism between the paradoxical perspective and resilient attitudes is still largely unclear. Thus, more research is needed to disclose the

interaction of paradoxical perceptions and leadership resilience. Further research can investigate how resilient attitudes demonstrate in actions in dealing with challenges and adversities.

2.3.8. Conclusion

This systematic literature review synthesizes 46 extant studies and provides collective knowledge about existing studies on resilience in leadership at workplaces by the emergent Building-up Resilience and Being Effective Framework. First and foremost, a key contribution is the current study brought a diversity of research studies together to discuss their complexities.

Importantly, this study found that resilience is an essential leadership trait and can benefit individuals and organizations' work outcomes across leadership contexts, and it is not only helpful in some particular contexts, which goes beyond the limited scope offered in the literature. Secondly, and perhaps somewhat affirming what may have been expected, leaders may build-up their resilience by obtaining coping skills and improving attitudes toward challenges. Interestingly, we further an argument that leaders may enhance their resilience through embracing a paradoxical perspective towards challenges (resilient attitude), e.g. being adaptive to adversities, and the attitude of learning from failures. These enhanced resilient attitudes could help leaders deeper understand and examine their reality and persist under high pressures and develop an innate ability to utilise resources more effectively to help them survive and thrive in challenging circumstances, instead of becoming overwhelmed by the burden of complexity or giving up. This will offer a practical contribution to resilience development and encourage individuals and organizations to promote resilient attitudes toward adversities.

To conclude, this study firstly supplies a collective picture of how resilience is operationalized within leadership at the workplace through a thematic synthesis of the

extant studies. The findings highlight that resilience is an essential leadership capability across leadership styles and provide insight into its build-up and influence mechanisms through paradoxical perspectives. The findings may encourage individual leaders and organizations to adopt resilience at the workplaces, particularly in dynamic and flexible circumstances.
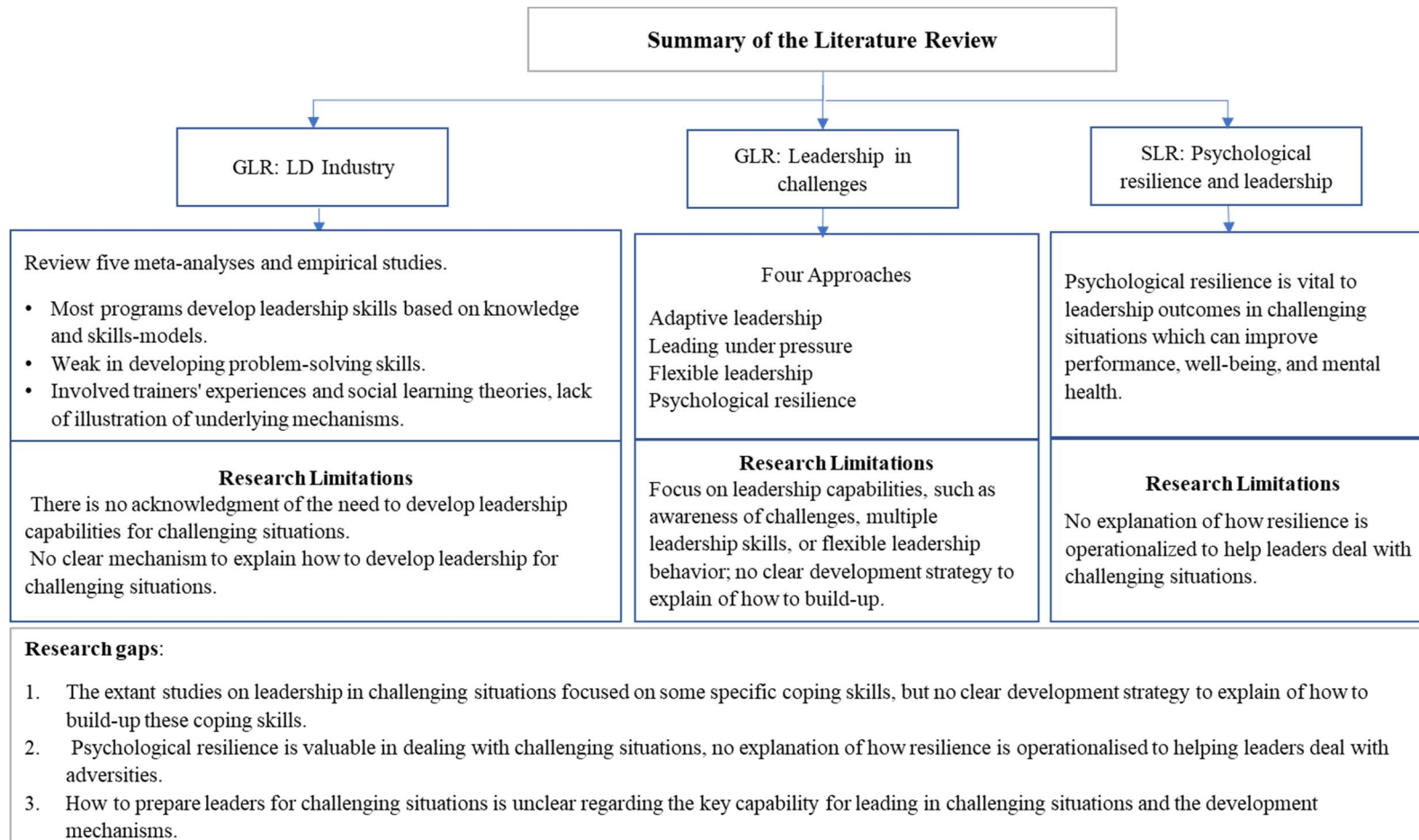
2.4.   Summary of the Literature Review

The literature review chapter conducted two general literature reviews and one systematic literature review (see Figure 6). The review about LD (leadership development) in Chapter 2.1 found that most extant LD and managerial training programs did not focus on developing leadership capabilities to confront diverse challenges. Thus, this may disclose the LD's problem that is some extant LD studies were not satisfactory in developing capabilities in dealing with challenges. This finding encouraged a further literature review of leadership in challenging situations which disclosed that some leadership attributes could help leaders confront adversity or challenges. Next, the systematic literature review on how psychological resilience interacts with leadership found that resilience can benefit individuals and organizations in overcoming adversity, such as enhanced leadership capability and performance improvement.

In Chapter 2.2, this research also reviewed extant effective leadership strategies in overcoming adversity and crises, including adaptive leadership (Heifetz et al., 2009), leading under pressure (James & Wooten, 2010), flexible leadership (Yukl & Mahsud, 2010), and psychological resilience (Masten, 2001). Both adaptive leadership and leading under pressure have shown that effective leadership during challenges is essential in contemporary organizations. They suggest that promoting resilience can help organizations handle adversity (James & Wooten, 2010).

To summarize, previous studies have provided strategies for overcoming adversity, e.g., identifying the critical level and being aware of crisis phases, being flexible and responding with different plans, building up multiple skills, and being acceptive or resilient to realities (James & Wooten, 2010). However, these studies did not explicitly depict how to develop required strategies in challenging circumstances nor how resilience is operationalized in leadership when responding to challenges. Thus, how to prepare leaders for challenging situations remains unclear in the literature in terms of what is the key capability for leading in challenging environments and the development process leading to it. Especially in the COVID-19 pandemic, leaders need to gain broad capabilities to deal with the more severe challenges, such as lower earnings, higher work pressure, and health issues. Therefore, building on these findings in the literature, the current research investigates how to prepare leaders for challenges in terms of how crucial leadership capabilities are demonstrated in actions and how to develop them.

Figure 6. Summary of the Literature Review

Summary of the Literature Review

GLR: LD Industry

GLR: Leadership in challenges

SLR: Psychological resilience and leadership

Review five meta-analyses and empirical studies.

- Most programs develop leadership skills based on knowledge and skills-models.
- Weak in developing problem-solving skills.
- Involved trainers' experiences and social learning theories, lack of illustration of underlying mechanisms.

Research Limitations
There is no acknowledgment of the need to develop leadership capabilities for challenging situations.
No clear mechanism to explain how to develop leadership for challenging situations.

Four Approaches

Adaptive leadership
Leading under pressure
Flexible leadership
Psychological resilience

Research Limitations
Focus on leadership capabilities, such as awareness of challenges, multiple leadership skills, or flexible leadership behavior; no clear development strategy to explain of how to build-up.

Psychological resilience is vital to leadership outcomes in challenging situations which can improve performance, well-being, and mental health.

Research Limitations

No explanation of how resilience is operationalized to help leaders deal with challenging situations.

Research gaps:

1. The extant studies on leadership in challenging situations focused on some specific coping skills, but no clear development strategy to explain of how to build-up these coping skills.
2. Psychological resilience is valuable in dealing with challenging situations, no explanation of how resilience is operationalised to helping leaders deal with adversities.
3. How to prepare leaders for challenging situations is unclear regarding the key capability for leading in challenging situations and the development mechanisms.

Chapter 3: Research Methodology

3.1. Research Aims and Questions

This research addresses the research problem identified from the literature review with the aim of discovering insights into how to building-up leaders for challenging situations and providing what kind of leadership capabilities or attributes support dealing with challenges. Qualitative research is the most suitable approach as it involves a deepening understanding of how to build-up leaders for challenges. Therefore, this research conducts two qualitative empirical studies and one method application study, which can enhance qualitative research quality by implementing a step-by-step grounded theory data-analysis procedure. Empirical study 1 aims to deepen insight into how to build-up leaders for dealing with challenges, regarding what leadership attributes are essential in challenging workplaces and the underpinning development mechanism. Study 2 is to discover how required leadership attributes are demonstrated during coping with challenges. Thus, in order to achieve the research aim, this qualitative research seeks to answer the following two research questions:

1. What leadership attributes are essential in challenging workplaces, and how can they be built up for dealing with leadership challenges?
2. How are these leadership attributes and capabilities demonstrated in action during dealing with challenges?

3.2. Interpretivist Research Philosophy

In the business and management area, research philosophy is defined as a set of beliefs and assumptions when embarking on a knowledge and theory development process (Saunders et al., 2019). Saunders et al. (2019) explain that philosophical assumptions can be categorized into ontological, epistemological, and axiological. Ontology refers to

assumptions about how researchers perceive the nature of reality. Epistemology relates to assumptions about how researchers achieve research objectives and communicate produced knowledge with others (Denzin & Lincoln, 2005). In the current research, the reality of leadership development, in particular how to develop leaders for challenges, is multi-faceted, and the researcher will investigate and present knowledge through narrative explanations. Axiology is about how researchers encounter their values and beliefs in the research journey (Saunders et al., 2019). For example, the current research posits the researcher's personal beliefs and values free while interpreting the focused phenomena. Unlike positivism, which believes that scientific knowledge and theory are law-like generalizations, and interpretivism assumes that the target phenomena are understandable and contextual-contingent (Saunders et al., 2019). Researchers who have chosen an interpretivist approach, for example, in the current research, understand the fundamental meanings of leadership development and aim to explain the underpinning theoretical mechanisms.

Interpretivism has been proposed and utilized in social sociological research for decades. Taylor (1971) showed that interpretation approaches were to make sense of an object. Yet, it was limited in generalizing their findings because contextual divergence may induce side effects (Williams, 2000). Thus, this research adopts interpretivism approaches to disclose theoretical insights into preparing leaders to confront challenges instead of making empirical generalizations. Some scholars articulate interpretivism differently. For example, Crotty (1998) explains that interpretivist research differs from the natural sciences and does not intend to emulate study findings. However, Saunders et al. (2019) describe how interpretivism research will produce new interpretations through advanced understanding of different cultural backgrounds and circumstances. These various assumptions within the

interpretivism paradigm will impact the theoretical perspective, which informs the different methodologies: thus, for example, the current research resonates with a qualitative method.

3.3. Qualitative Method

Crotty (1998) defines research methodology as the strategic plan underpinning the research design, which guides researchers in choosing research methods. Research methods are the techniques and procedures employed in data collection and data analysis related to research questions and hypotheses. The present research accepts the feature of meaning-making and multiple interpretations of data that disclose new meanings of leadership development. Firstly, this research aims to reveal how to prepare leaders for challenges. Secondly, it intends to discover how required leadership attributes are demonstrated during challenging circumstances. Answering questions such as 'how' and 'why' requires interpreting and understanding the subjective meaning, rationalizing this research's inductive qualitative approaches (Tracy, 2010).

Saunders et al. (2019) observe that deduction, induction, and abduction are commonly utilized in knowledge or theory development approaches. Deductive reasoning is normally used to test a conclusion derived from a theoretical premise, inductive reasoning generates untested concepts or theories, and abduction approaches blend these two types of approaches. Ketokivi and Mantere (2010) state that deductive approaches proceed from a set of general premises to a specific conclusion by following a strict analytical process. Inductive theoretical approaches, however, derive general theoretical meanings from particular phenomena (Ketokivi & Mantere, 2010). The three types of knowledge approaches (deduction, induction, and abduction) can be displayed in three research methods, quantitative, qualitative, or mixed methods, respectively. Therefore, to achieve the

research aims and discover insights into preparing leaders in challenging circumstances, the current research adopts the interpretivist perspective and inductive qualitative method.

Saunders et al. (2019) explain that, in a research design, quantitative, qualitative, or mixed methods are three common methodological choices. Quantitative research often collects and analyzes numeric data; by contrast, qualitative research studies non-numeric data (words, images, and other similar material) to provide advanced understanding or develop a theory by categorizing data. A mixed-method design is likely to combine quantitative and qualitative elements (Saunders et al., 2019). Unlike deduction's logical process, inductive conclusions (or qualitative methods) have been criticized for their inherited non-analytical bias. Ketokivi and Mantere (2010) argue that the problem of inductive approaches derives from the reasoning process that is considered as a less scientific procedure: the theoretical conclusion derived from qualitative reasoning is incomplete and has not been tested. Ketokivi and Mantere argue (2010) that a systematical process might encounter inductive reasoning issues, such as grounded-theory approaches.

Thus, the current research is conducted by undertaking the interpretivist perspective, qualitative approaches, and the grounded-theory method. Grounded Theory (GT) is a flexible method to disclose emergent theoretical patterns by investigating empirical data (Glaser & Strauss, 1967). With the rich evidence reported in recent decades, the systematic analysis process within the grounded-theory method can largely alleviate the inductive issues in developing theoretical constructs. To conduct this research effectively, Study 1 develops an evolved three-phase grounded theory data analysis procedure (detail in Chapter 4.1), which can strongly support empirical studies demonstrated in Study 2 (Chapter 4.2) and Study 3 (Chapter 4.3). In addition, Study 1 has been published in the International Journal of Doctoral Studies, which may assist other new researchers in implementing grounded theory data-analysis techniques.

3.3.1. Grounded-Theory Data-Analysis Process

A GT strategy has been utilized in broad empirical contexts, including healthcare (Auerbach et al., 2006; Sbaraini et al., 2011; Vinckx et al., 2018), psychology (Hutchison et al., 2011), and leadership (Gibson et al., 2018; Kan & Parry, 2004; Lakshman, 2007). In the qualitative research domain, GT has developed divergently and is named differently. For example, Glaser insisted on following the original data and depicted GT as Classical Grounded Theory (Glaser, 1992). Charmaz (2014) suggested adding more researchers' conceptual ideas during data analysis and originated a GT branch named the Constructivist Grounded Theory. The current research adopts an interpretivist philosophy within assumptions of the researcher's value-free, which is aligned with the Glaserian grounded theory method. Glaser did not agree with inserting researchers' values and beliefs into the research process. He believed that 'all is data' (Glaser, 2007), which was opposed to Charmaz's (2014) constructive grounded theory that preferred to include researchers' pre-conceived theoretical concepts within the theory development process. By integrating the GT's four core principles, i.e., open-coding, constant comparison, theoretical sensitivity, and theoretical sampling (Glaser, 2006), and three evolving stages, i.e., two-step literature review, two-step open-coding, and two-step theory-constituting process, Study 1 presents the author-designed three-phase research framework and published this study in the Journal of Doctoral Studies. This research follows the three-phase research framework, which will be explained in detail in Chapter 4A, which is a published article in the International Journal of Doctoral Studies (see Figure 7).

Figure 7. Three-phase Data Analysis Framework
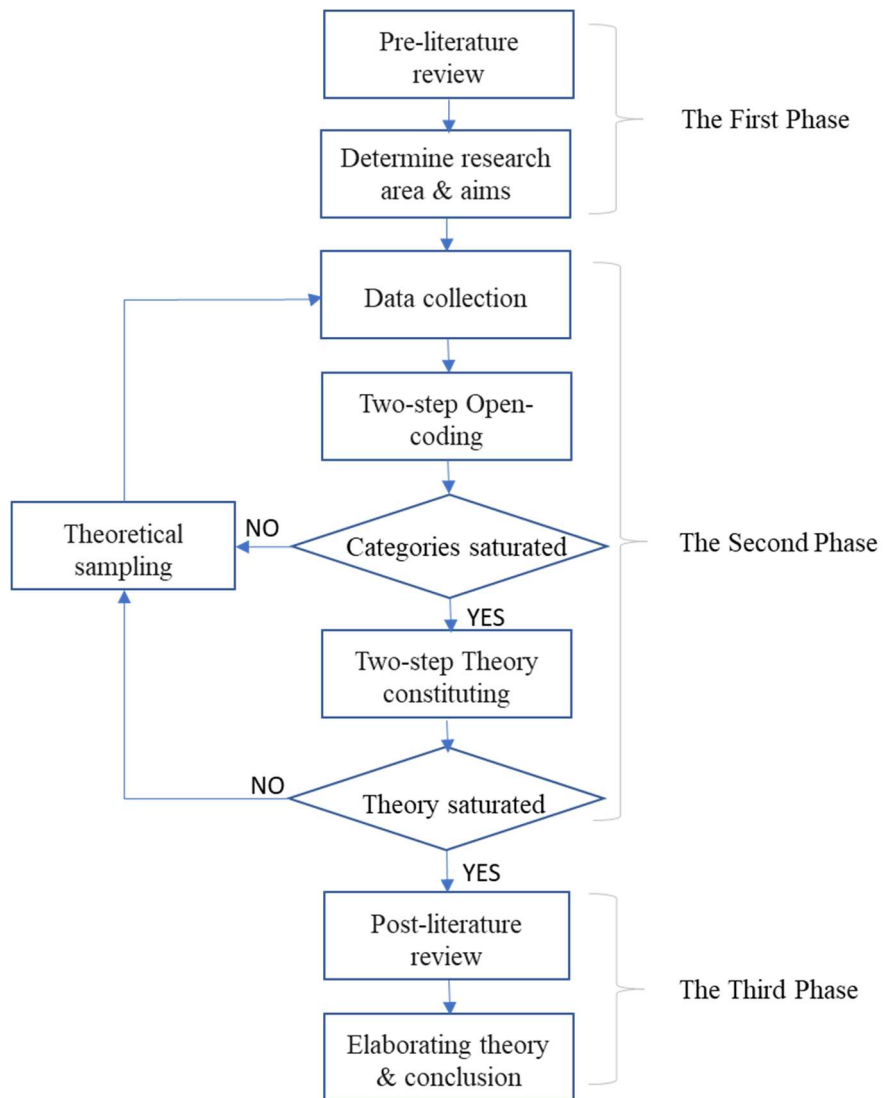
These three evolving applications divide the complex research project into small parts. The broken-down process can lower the research ability threshold, and the evolving process is achievable for a doctoral researcher. In addition, it involves a GT research framework that describes the whole GT-based research process step-by-step in sequence (detailed in Chapter 4.1).

3.4. Sample and Data

3.4.1. Sample

This research employs the purposive sampling method, which is a non-random strategy used to collect data from a particular sample. Robinson (2014) explains that the purposive sampling method is suitable when certain individuals are unique and have important perspectives on the research topic. In the current research, the 42 participant leaders were equipped with leadership knowledge and skills and could recognize others' leadership challenges and successful practices. Given this, the purposive sample provided rich information that reflected how leaders confront challenges. The data set made it possible to disclose deeper insights into leading in challenging situations and developing required leadership capabilities.

The sample included 42 participant leaders. The majority of the participants were middle-level leaders from diverse Australian organizations. These 42 leaders participated in a 10-month program, which involved nine in-class seminars delivered by 16 guest leaders (trainer leaders in this research), seven leadership panels, and executive coaching and mentoring sessions. Participants were expected to contribute their feedback to the seminars and then reflect on their learnings. All these reflections used in this research are anonymous qualitative reflections with no demographic information, such as name, gender, age, education, etc.

Sixteen (ten male and six female) guest speakers presented their broadly diversified occupation and leadership experiences. Of the six executives, one is from an NGO organization, one is from mining, and four are from other commercial organizations. Seven senior managers are from universities, healthcare organizations, and others across industries.

And three are senior officers from local government and public service departments (see Table 5).

Table 5. Brief Information on 16 Trainer Leaders (Guest Leaders in This Research) of the LD Program

Industry	Executive	Senior manager	Senior public officer	Grand Total
Art & culture		1		1
Commercial organization	2	1		3
Education	2	2		4
Government & public service			3	3
Healthcare		2		2
Mining	1			1
NGO	1	1		2
Grand Total	6	7	3	16

Each guest speaker hosted one LD session, e.g., an in-class training session or a leadership panel. During each training session, one of these guest leaders shared their leadership experiences, personal stories, challenges, and responses to the challenges or disasters faced by themselves or their organizations. After each session, the 42 participants were asked to anonymously reply with their feedback about what inspired them or not in their own leadership development process.

3.4.2. Data

The data utilized in the current research was 1226 reflective responses collected from the 42 participants involved in a 10-month leadership development program held in Australia in 2013. These reflective reports were based on five open-ended questions, including four questions directly related to the 16 guest speakers' sessions and one question in the final survey (see Table 6). The questions are listed in Table 8 below. At the end of the LD program, participants provided detailed feedback on the program. The final survey had

one open-ended question: 'Through your participation in the leadership program, how were you encouraged to enhance your leadership through exposure to highly experienced leaders from across the industries?'

Table 6. Reflection Questions Asked of Participant Leaders about the LD Program

Question	Session
Through your participation in the leadership program, how were you encouraged to enhance your leadership through exposure to highly experienced leaders?	Final survey
What does that mean to your leadership practice, and what would you do more of/less of/differently?	Guest speaker
In listening to the guest speaker, what resonated with you?	Guest speaker
What provoked you in this session?	Guest speaker
What comments would you like to make to the client speaker?	Guest speaker

3.4.3. Examples of Raw Data

The following examples of the dataset show the data richness. The following examples show participant leaders reflected diversified leadership experiences shared by guest leaders (trainer leaders in this research) and what participants learned from their exposure to the leadership development program. In addition, some participants' reflections have both what inspired them to learn and what they learned, which explained the relationship between their leadership capabilities enhancement and these trainer leaders' sharing. The richness of the data set will enable this research to adopt the grounded theory data analysis techniques.

Participants' Reflections on Different Guest Leaders

Guest speaker A: a director of an NGO, shared her personal tragedy. One family member killed another one. Her husband broke down, and her parents broke down. She was the only

one who could keep the family going on. She shared how she had to support family members and take care of children and also how she got support from the government by going through a long process. After that, she quit the paid job and joined the NGO as a volunteer. She acknowledged her challenging experiences and learned from these experiences, and she wanted to help others in difficult situations.

Participants' reflection:

1. *The central message of her speech was that it is not what happens to us that matters, but what we do after that matters. The strength and resilience that she has shown despite incredible hardship are quite inspirational.*

2. *I was very moved by the way in which you showed us that we never know what is going to happen to us but that by being resilient, strong, determined, passionate, and caring people, we can survive and use our experiences to try and make the world a better and more just place.*

Guest speaker B is the CEO of one of the biggest companies in Australia. He shared his early experiences, growing up in a well-educated family, a couple of years in the USA, a competitive environment, and his ambition. Then, he shared his company culture and some of the challenges: gender is un-balanced among top leaders, dominated by males. And a contradiction in commercial profit and social responsibilities—how to care for other small businesses.

3. *There was nothing that he said that really provoked me. He did not 'walk the talk' when it came to gender equity and integrity on moral issues such as the sale of alcohol and gambling.*

4. *I was also surprised that you referred to corporate social responsibility and indigenous issues but gave us no information about what you are doing in this field*

or what you are most proud of achieving in the social change/community development sphere.

5. *The guest speaker didn't allow us to hear his personal struggles or what he actually thought or believed. The man is behind the professional shield.*

Participants' Reflections on What They Learned

1. *Some speakers have talked about issues that have challenged my thinking and even made me realize I did not want to be that type of leader. For example, those that spoke about only being able to achieve leadership positions through long hours and sacrifice. But there were others who really left a lasting impression on me and have encouraged me to think about my own leadership style and how I lead my organization. They have focussed my thinking and encouraged me to think outside the square; be brave; be confident and be authentic. It has been a year of personal growth and development. The experiences have made me think about who I am and where I want to be as well as how to position myself to get there.*

2. *This has been a true benefit of being part of this program. The access we have received to leaders across corporate, government and NFP (and some very high profile) has been fantastic and not something that can be readily replicated. Whilst the leaders have been varied (in frankness, some more 'leaders' than others), many have provided some gem or quality that I have been able to reflect on and look to integrate into my thoughts on leadership.*

3. *I became extremely clear about my philosophy of leadership and both how I want to lead and how I want to be led. It brought into relief where I think my leadership strengths are and areas where I need to focus actively.*

4. *The leaders I have been exposed to over the year have caused me to try to be less arrogant as a leader; to be more mindful of the fact that I don't have all the answers and neither am I required to, and have caused me to reconsider what successful leadership looks like for me.*

5. *Many of them have challenged me to think about and adapt my own personal leadership style to my work colleagues, friends, and family. I have a new consciousness of what it means to be a leader with a social conscience and an interest in the well-being of the broader community, as opposed to a task-focused manager of people.*

6. *I have been fortunate to have left every experience with either a new leadership 'tool' or, more commonly, a better way of using the knowledge (tools) I already possess. The most obvious example for me has been reinforcing the importance of the human side of my leadership role and increasing the opportunity for communication in every instance.*

7. *In my instance the program has helped evolve someone who is far more: - Societally aware and informed - Self-aware of my own leadership style, what I value in leadership, what I can do to make a greater impact - Balanced and considerate of others views - In touch with what's important to me.*

8. *I now have the ability to share that knowledge with my colleagues, friends, and family on issues that I probably would not talk about in the past, but I now have an informed opinion and feel that I can contribute to discussion, debate, and influence them.*

Participants' Reflections on What Inspired them

1. *Communication is the key, grab opportunities and extend your influence through strategic thinking. The importance of transparency, integrity, and authenticity in*

letting people know what you want to do is paramount.   After each experience, the reflection provided an opportunity to link learning to my own leadership journey and practice. This has been very valuable.

2. *I found the opportunity to listen and learn from such a diverse and experienced group of leaders truly amazing. There insight and knowledge were invaluable in my own leadership journey.*

3. *Through exposure to a range of highly experienced and diverse leaders, I have had the opportunity to take away snippets from each, some more than others, and apply that in my own life.*

4. *What did surprise me was that despite the diversity of leaders we met, there was an enormous amount of consistency to their approach and values.   It also struck me that, from a pretty impressive crop, there were some leaders who I found far more inspirational than others.   What made the huge difference at the margin was two things alignment of values and the attitude and enthusiasm they bring.*

5. *I have also observed some amazing examples of where the leader's passion and authenticity have had me almost mesmerized. The leaders I have enjoyed the most have had these traits. Equally important, however, has been to ensure they have 'tempered' their passion and shown the appropriate part of their authentic self. This too has been really powerful and important to me.*

6. *I was particularly moved by the presentations from disadvantaged youth including speakers from "The Big Issue" and Fairbridge Farm. These presentations made a huge impact on me and have changed the way I approach the inequity that exists in this country.*

7. *I particularly enjoyed those that did not appreciate their leadership qualities in those smaller communities and those that had experienced life's ups and downs*

such as the Big Issue sellers, the refugees and the young adults at Fairbridge. Those that could recount a personal experience resonated most.

8. *I have a greater depth of appreciation for the issues in the state and the people who take responsibility for, or have been promoted into positions to tackle the issues and challenges.*

9. *What has constantly surprised me or indeed confirmed what my beliefs were prior, is that it didn't matter what area from the community the leader came from they all held very similar principles of leadership and they didn't really change much – only the focus of the challenges of their industries varied*

Participants' Reflections on Both What Inspired Them and What They Learned

1. *I found that I could learn from their experience from different stages of their career journey that aligned to my own. My learning from a homeless person in Perth has been just as enriching as the CEO of a large national corporation, which is a reminder for me is not to judge a book by its cover. I had some level of insight and knowledge of many of the issues presented to us, but having an experienced speaker to deliver the messages gave a deeper understanding.*

2. *There have been a number of management style wisdom from both guest speakers and cohort members which I have taken back to use within my own team, and I have also flagged a few opportunities for consideration in strategic areas of our business.*

3. *Listening to other leaders' stories about their career path, their challenges and what they deemed was important to their leadership helped to hone a sense of what good leadership means to me.*

4. *I believe that my leadership capacity has been greatly enhanced throughout the course of the program, not only from hearing about the leadership experiences of*

our guest speakers but also from considering the issues they have faced across their careers.

5. *Without a doubt, I feel like my leadership has been enhanced, and I feel this has happened from exposure to the cohort as much as the leaders who spoke with us. On re-reading my reflections, it's amazing to refresh how many quality leaders we have been fortunate enough to meet and hear from and how open and transparent they were in sharing their leadership journey and lessons.*

6. *I believe that my leadership capacity has been greatly enhanced throughout the course of the program, not only from hearing about the leadership experiences of our guest speakers but also from considering the issues they have faced across their careers.*

Chapter 4: Three Studies Written in Manuscript Form

Attribution Statements

Chapter 4.1 (Grounded Theory: a Guide for New Generation of Researchers) is published in the International Journal of doctoral studies.

Yu, M., & M Smith, S. (2021). Grounded Theory: A guide for a new generation of researchers. International Journal of Doctoral Studies, 16, 553-568. https://doi.org/10.28945/4836

The following authors contributed to this manuscript as outlined below.

Authorship order	Contribution (%)	Concept Development	Data Collection	Data Analyses	Drafting of manuscript
Name 1: Mengye Yu	80	X		X	X
Name 2: Dr. Simon M Smith	20	X			

Contribution indicates the total involvement the author has had in this project. Placing an 'X' in the remaining boxes indicates what aspect(s) of the project each author engaged in.

Chapter 4.2 (Learning from Others' Challenging Experiences and Leadership Resilience--Vicarious Learning in Leadership Development) is prepared for submission.

The following authors contributed to this manuscript as outlined below.

Authorship order	Contribution (%)	Concept Development	Data Collection	Data Analyses	Drafting of manuscript
Name 1: Mengye Yu	60	X		X	X
Name 2: Dr.Vita Akstinaitė	20				X
Name 3: Associate Pro Antonia Girardi	20	X			

Chapter 4.3 (Leadership Resilience in Action-- Reflections from Australian Leaders in a Leadership Development Program) is prepared for submission.

The following authors contributed to this manuscript as outlined below.

Authorship order	Contribution (%)	Concept Development	Data Collection	Data Analyses	Drafting of manuscript
Name 1: Mengye Yu	100	X		X	X

Contribution indicates the total involvement the author has had in this project. Placing an 'X' in the remaining boxes indicates what aspect(s) of the project each author engaged in.

By signing this document, the Candidate and Principal Supervisor acknowledge that the above information is accurate and has been agreed to by all other authors.

Mengye Yu   Associate Professor Dr. Antonia Girardi

_____   _____ _____

Candidate   **Principal Supervisor**

Chapter 4A: Methodological Study

To achieve the research aim and discover how to prepare leaders for challenging situations, this research conducts one methodological study and two inductive studies. The methodological study provides a three-phase grounded theory data analyssi framework, which can build-up the inductive studies quality. This study has been published in the International Journal of Doctoral Studies, which can strongly support the two empirical studies by investigating reflections collected from 42 Australian leaders in LD programs.

4.1. Study 1: Grounded Theory: a Guide for New Generation of Researchers

(Published version)

4.1.1. Abstract

Aim/Purpose: Grounded Theory (GT) has grown and developed into several strands making its application all the more problematic, argumentative, and potentially remaining as a research methodology to avoid when it comes to doctoral research, early-career research. Thus, the purpose of this paper is to revisit GT as a general approach and present an evolved and more considered step-by-step guide to conduct research using this methodology. A leadership development context is applied in this paper to examine how this methodology could work for a new generation of researchers, i.e. new to doctoral research or an early career researcher.

Background: Since its academic inception in the seminal text in 1967 (Glaser and Strauss, 1967), GT has emerged and developed to become a popular choice for researchers contemplating qualitative data approaches amongst a variety of subject backgrounds. However, the divergent development and criticized approaches within GT families can lead researchers to avoid such a research methodology. This can especially be the case within doctoral research or other early-career research. Indeed, a specific/explicit GT guideline or framework to assist doctoral students in conducting GT research does not currently exist.

Methodology: There is a general review of GT approaches followed by theoretical development of a framework and an applied doctoral example.

Contribution: The three evolved methods in GT research and the developed supporting author-designed three-phase research framework will contribute to two aspects. Firstly, the step-by-step guideline can reduce the sense of confusion within an area where criticisms and conflicting approaches exist. This will hopefully assist the next generation of GT

researchers in conducting their research through detailed processes and applications. Secondly, there is arguably a need for more GT applications and evolvements to further enrich the body of knowledge that exists in this area and further support a diversity of subject research.

Findings: The authors outline numerous differences and similarities within divergent GT practices. By integrating Glaser's four core principles and three evolved methods, the authors design a three-phase research framework that presents a transparent step-by-step guide. This framework attempts to mitigate criticisms within GT approaches whilst maintaining clarity, flexibility, depth and rigour within a study.

Recommendations for Practitioners: Three GT evolvements (the two-step literature review method, two-step open-coding method, and two-step theory-constitute method) provides greater clarity within a rigorous author-designed three-phase research framework that demonstrates a transparent step-by-step guide. These techniques can encourage a new generation of GT researchers through confident and structured analytical techniques.

Recommendations for Researchers: We hope the presented framework and concise view of GT in action will inspire other doctoral students and new GT researchers to conduct GT research following an evolved GT framework.

Future Research: The framework presented will need further testing beyond the parameters set out here. We hope future research can adopt the evolved GT techniques and procedures to enforce research quality overall and inspire further GT methodological developments.

Keywords: Grounded theory, doctoral students, early career researchers, methodology

4.1.2. Introduction

Since its academic inception in the seminal text in 1967 (Glaser & Strauss, 1967), Grounded Theory (GT) has emerged and developed to become a popular choice for researchers contemplating qualitative data approaches amongst a variety of subject backgrounds. Indeed, the application of GT has long since moved past its medical profession applications it was first considered for. But since 1967, GT has grown and developed into several strands and the potential divergence of its application presents increased complexities in terms of aspects like rigour and validity. Thus, this could mean it is potentially a research methodology to avoid when it comes to doctoral research, early-career research and even working towards the career elite (or elitism) within various journal ranking guides around the world. Nuances and differences are outlined and discussed within this paper.

Over time, some scholars have added new approaches to aid GT's further development, e.g., a constructivist grounded theory research guideline (Charmaz, 2014; Charmaz & Thornberg, 2020) and a checklist of saturated concepts (Corbin & Strauss, 2015). These efforts may provide detailed information in some aspects, such as how to produce a saturated theory. Yet, this does not help clarify what GT is and how to conduct GT (Walsh et al., 2015). The image of the 'top-tier' qualitative research method and potentially confusing perceptions of GT still act as a hindrance to novice researchers, although also come with some innovative possibilities (Walsh et al., 2015).

For GT to continue to grow and develop as a respected methodology, as well as keeping within its evolved nuances, this paper aims to draw together and discuss GT complexities with a view to building a framework that can guide a new researcher or doctoral student. The tangibility of the processes outlined in our framework present a much

greater depth and clarity than previously offered within the literature. We hope this can assist new researchers and doctoral students in making well-informed and confident research choices that lead to high quality and rigorous data outputs within a GT approach. Furthermore, we want to help GT as an approach grow beyond its pre-conceived limitations, i.e. where it is considered a weaker qualitative methodology to use opposed to those that offer more formulaic procedures to more easily follow. These limitations are not openly discussed in the literature (although research could further inform this discussion), but we think the framework we present can add further rigour and validity that can assist reviewers and doctoral examiners in their judgements of the research approaches adopted. In essence, our framework can offer a greater formulaic procedure for researchers to follow and identify with.

Thus, we must confront the confusion created by divergent approaches in GT. This is done by revisiting key literature to outline and discuss the core principles of GT in its various guises. To further expand our generated framework, we apply a live data example within leadership development (as the driving context) to further examine how this methodology could (or could not) work for a new generation of researcher, i.e. new to doctoral research or an early career researcher. We hope this paper will serve as an effective guide to researchers thinking about GT and bring together a number of important considerations within this realm.

The rest of this paper is structured into four main sections and a conclusion. First, we identify central elements and key debates within GT methodology, as well as four underpinning core principles. Subsequently, we present an evolved GT research framework designed for the next generation of researcher and those new to the methodology. Finally, we apply the presented framework to a 'live' author-led doctoral experience to show the framework in action.

4.1.3. Grounded Theory and Divergent Development

GT is generally considered to be a flexible qualitative method employed to develop theoretical patterns rooted in the relevant empirical data set. Its origins lie with Glaser and Strauss (Glaser & Strauss, 1967). As a common approach, GT studies seek to develop theoretical constructs by categorizing empirical data constructs into an integrative story under a systematic process, including theoretical sensitizing, theoretical sampling, and constant comparing. A GT analysis can begin with open-coding strategies, without basing a prescribed conceptual framework, composed of initial-coding followed by secondary-coding (Glaser & Holton, 2007). These characteristics are argued to enhance the credibility of a qualitative study (Auerbach & Silverstein, 2003) and allow the data to guide the articulation of the findings as opposed to, for example, searching for ratification of a hypothesis or proposition.

GT can be utilized within broad empirical contexts and subjects using rich and various fundamental techniques and a transparent research process. Various disciplines have employed GT because it provides scientific-style research processes (which can lead to accusations it is post-positivistic in nature), such as healthcare (Auerbach et al., 2006; Sbaraini et al., 2011; Vinckx et al., 2018), psychology (Hutchison et al., 2011), and leadership (Gibson et al., 2018; Kan & Parry, 2004; Lakshman, 2007). Thus, GT has grown in popularity and become a widely used research approach (Bryant & Charmaz, 2007).

From the methodological perspective, GT has evolved divergently and, as such, can be named differently. This includes Glaser's Classical GT (Glaser, 1992), Charmaz's Constructivist GT (Charmaz, 2014), and other approaches (Goldkuhl & Cronholm, 2010). In terms of GT research key principles, both Classical GT and Constructivist GT agree to emphasize open coding, theoretical sensitizing, constant comparison, and theoretical

sampling. However, these particular approaches differ in some other dimensions, such as perspectives on the role of the literature review, pre-conceived concepts and the researcher's values demonstrated in the procedure of theory development (Timonen et al., 2018).

For example, on the one hand, Glaser recommends that all theoretical patterns (or themes) should emerge from data through constant comparison. Whereas Glaser is strongly against researchers adding their personal thought in constructing a theory nor using pre-conceived concepts to guide data collection and data analysis (Glaser, 2002). Glaser (2002) stated that the derived theoretical patterns from GT studies should emerge from constant comparison of data, and only emergent substantive theories can demonstrate "true grounded theory". He insists that open-coding is not based on any pre-conceived conceptual framework (Glaser, 1992). On the other hand, Charmaz initiates constructive GT to stick closely to pre-defined patterns and categories (Charmaz, 2014). Constructivists also normally start a data-analysis process within some sort of conceptual framework. Moreover, constructive-based GT studies emphasize the value of researchers in light of constructing theory. By contrast, Straussian research encompassed more structured coding procedures, e.g. open, axial and selective coding (Corbin & Strauss, 2008). Indeed, these divergent perspectives on pre-conceived concepts, coined within the perception of how to utilise a literature review, will confuse or mislead some researchers. For instance, one study misinterpreted Glaser's perception of the literature review and argued that Glaserian were studies strongly against consulting the relevant literature in the substantive area to eliminate any prior influence (Alammar et al., 2019). However, Glaser never suggested a non-literature review in GT research; he is merely against the pre-conceived conceptual framework, which is different from an approach absent of any literature reading or understanding. For a doctoral student or new generation researcher, without gaining plenty of knowledge from literature, there will be few possibilities to build-up theoretical

sensitivities, which is a critical ability when conducting GT research. Another doctoral research GT application in IT intended to give assistance to other novices (Jones & Alony, 2011). However, there was no clarification offered about how to utilise a literature review nor the application of constituting theory. To summarize, studies have yet to explicitly and clearly articulate the role of a literature review in GT research, including the three main families of GT: Glaserian, Straussian, and Constructivist GT. This is why the current study intends to clarify and demonstrate how to use a literature review in a GT study without also breaching any of the core principles.

Thus, and perhaps not well-recognized within general methodological literature, choosing to apply GT techniques comes with a variety of starting points and a degree of variation in how GT should look in practice. In other words, a researcher does not want to become trapped in discussions and arguments about what GT is and how it should be applied. Yet, Glaser (2002) and other researchers recommend GT as an advanced doctoral theses method. For an early career researcher (ECR) conducting research and working towards the review process, this complex arena of GT can also lead to extensive (and maybe disheartening) discussions in review processes about the nature of GT and therefore how robust its application is, i.e. if the quality is considered to be lacking in the GT process, this can have a knock-on effect in terms of where such work can be published (e.g. related to journal ranking systems). This is perhaps a somewhat controversial conversation, as it is difficult to evidence, but the authors are attempting to shine a light and have an important conversation around research realities. As a result, we believe it is imperative that a new researcher is well-versed, well-positioned and robustly justified in their selection of GT.

4.1.4. The Core Principle of Grounded Theory

By following Glaser's classical GT principles and process, the application of open-coding, constant comparison, theoretical sampling, and theoretical sensitivity are recognized as core principles. These characteristics are unique attributes of GT approaches that can differentiate GT research from other qualitative methods (Corbin & Strauss, 2008).

Open coding

In a qualitative study, coding is a fundamental step in the analysis process that enables breaking down the data into meaningful parts (Creswell, 2016). Indeed, it is a common and widespread application in qualitative studies. In Glaser's classical GT research, the open-coding procedure starts with no literature-based preconceptions within the coding process and instead leads towards the development of core categories (Glaser, 1992). This is a very difficult task in itself when a researcher is arguably intertwined with the data in front of them. Yet, open-coding can identify all similar phrases and sentences through a line-by-line or word-by-word coding process and constantly compare the substantive phenomena in the data set. In essence, a researcher puts the pre-conceived literature to one side as they start to construct meaning from the data. Subsequently, selective coding is the process where researchers use their theoretical sensitivity to identify the essential concepts from the outputs (all the repeat ideas) of the initial stage. Both Glaser and Strauss conduct an open-coding procedure, but their second coding step is different. Glaser's classical GT two-step coding is comprised of the initial step of open-coding and the subsequent selective coding step. By contrast, Strauss's two-step coding process is composed of open coding and axial coding. In the axial coding step, the analyst will bring the disconnected coded data back together and delineates the relationships between concepts after yielding the core concepts (Corbin & Strauss, 2008).

Constant comparison

Constant comparison is the analytic process that compares each piece of relevant data for similarities and differences and then develops the concepts (Corbin & Strauss, 2008). The constant comparative analysis techniques are inductive processes that select the identified phenomena from the focused data through iteratively coding and recoding (Glaser & Strauss, 1967). This sifting and sorting data tool can stimulate grouping conceptual properties and finally yield emergent concepts. Glaser states that all GT studies are generating emergent concepts that are completed by constant woven comparison with many rigorous steps. (Glaser, 2001). O'Connor et al. (2008:41) stated:

> *Constant comparison assures that all data are systematically compared to all other data in the data set. This assures that all data produced will be analyzed rather than potentially disregarded on thematic grounds.*

Constant comparison should endorse GT studies and yield emergent concepts from the focused data set. Constant comparison has demonstrated its unique value in qualitative studies in general, as numerous researchers outside of the GT domain also utilize constant comparison techniques (Fram, 2013). Perhaps a common criticism of constant comparison is a lack of detail on the 'how'. The process may sound straightforward enough, but there is a lack of detailed instruction and guidance to know if the process is being conducted successfully. This could explain why Fram (2013) claims that around one-third of GT studies could not successfully develop substantive theory from their data process and the problem may be caused by the lack of legitimate use of constant comparison.

Theoretical sampling

Theoretical sampling involves choosing a relevant sample that expands the phenomenon recognized in previous research steps (Lakshman, 2007). GT analysts use

theoretical sampling to develop and elaborate the emerging concepts or substantive theories with pertinent data when the previous research step does not result in promising concepts in terms of conceptual properties (Charmaz, 2014). The definition of theoretical sampling is compared to the selective sampling techniques that are normally employed to identify target populations and settings before data collection (Schatzman & Strauss, 1973). Glaser (1992) explains that grounded theorists conduct an analysis process with collaborative data collection and coding. They will decide what data to collect in the next stage to develop the emerging theory (Glaser, 1992). In other words, GT analysts can conduct theoretical sampling more than once until they are confident in the saturated emergent theory. Beyond the normal criticisms around issues of generalisation within qualitative studies, there are also the choices of, and potential limitations in, the theoretical applications used, e.g. these can be restricted by the researcher's knowledge range. This highlights that, despite attempts to restrict pre-conceived conceptualisation earlier in the data analysis process, the importance of theory and concepts eventually comes to the fore and, arguably, they are essential for a doctoral process or a journal article review process.

Theoretical sensitivity

Thus, to address that last point above, theoretical sensitivity is the capability to understand and conceptualize phenomena into abstract terms. Glaser (1992) stated that theoretical sensitivity was the critical ability that GT researchers should equip to understand the studied data and recognize the emergent concepts through constant comparing. Developing theoretical sensitivity will empower researchers to successfully convey the analytical process when pursuing theoretical insight (Charmaz, 2014). If researchers are weak in conceptual ability, they may not succeed in theoretical coding practices and will not successfully achieve grounded theory aims (Glaser, 1992). Therefore, theoretical sensitivity is considered as a threshold to determine whether a researcher can do GT studies or not.

Fortunately, the previous studies have found evidence that theoretical sensitivity can be heightened through a course of practice: reading the literature, two-step coding, category building, and writing reflective memos (Hoare et al., 2012; Lo, 2016). This again highlights the skill of a researcher when knowing how to detach and then firmly attach at another point pre-conceived theories and concepts.

Considering all of these four principles mentioned above, theoretical sensitivity, two-step coding, constant comparison, and theoretical sampling techniques distinguish GT research from other qualitative studies. Both studies within and around GT have found that use of unique techniques are valuable to ensure research quality. But, such specific and advanced research skills are a significant challenge for new GT researchers to face within their studies, e.g. how to utilize a literature review. Thus, this paper will now consider an evolved grounded theory research framework for a doctoral student or new GT researcher.

4.1.5. Evolved Research Framework for New Grounded Theory Researchers

One highly unique aspect of this paper is that the discussion that follows represents a 'live' doctoral journey. We feel that sharing this 'lived experience' will heighten the relevance of the discussion as it is presented 'at the time' and not 'in hindsight'. This part of the paper is based on planned empirical research that aims to gain new insights into how psychological resilience interacts with leadership at the workplace. The research purpose is to advance the understanding, which resonates with a theoretical purposed inductive qualitative study; thus, GT is identified as pertinent to the study.

Data were collected from participants involved in a leadership development (LD) program. Forty-two leaders participated in the LD program, which involved nine in-class seminars delivered by guest speakers/leaders and seven leadership panels. All participants are familiar with leadership knowledge, skills and challenges faced by individuals and

organizations. Most of the trained leaders are middle-level leaders are from diverse organizations and positions. A guest speaker or a leadership panel hosted each LD session. During each LD session, these guest speakers shared their leadership experiences, personal stories, challenges, and responses to the challenges or disasters faced by themselves or their organizations. After each session, participants replied with their feedback about what inspired or demotivated them to build-up their leadership capabilities.

The empirical study aims to reveal the encouraging factors and discouraging factors that impact LD effectiveness in this LD programme context. To achieve the research purpose, the study accomplished the whole analysis process with three cycles of data analysis sequentially: the initial data collection and two cycles of theoretical sampling. The first cycle of analysis resulted in one theme centred around being inspired to learn by leadership experiences of others, and this is where some participants mentioned challenging experiences. Unfortunately, how the challenging experiences of others can motivate them to learn is unclear. Thus, the first theoretical sampling was conducted to collect more data followed by a two-step coding process. Within these two cycles of data collection and analysis, there was still no saturated emergent concept to explain discouraging factors. Thus, the second theoretical sampling and data analysis process was conducted. As a sub-total, the researcher collected and analyzed 1,226 reflective responses from 42 participant leaders to achieve the goals of the study.

The rich data set makes it possible to do GT in terms of a fairly large qualitative sample size. This sticks to the "all is data" rule and lets the theoretical concepts and substantive theory emerge from the data analysis (Glaser, 2001). Given these reasons, the present research generally follows the core principles of Glaser's classical grounded theory.

Regarding the high level of required research skills as discussed above, some researchers are not confident in their capability to start a GT-based study (Glaser, 2001). The necessary theoretical sensitivity and the complex process will become the obstacles to a new grounded theorist. Therefore, for a doctoral student or early career researchers, conducting GT studies is challenging unless the high level of research capability can be broken down into small parts and described with a well-designed implementation process.

This paper demonstrates how a new GT researcher can conduct a GT-based study by following the evolved GT research framework delivered within the doctoral research project outlined above. This procedure strictly employs GT essential principles and combines with the author-evolved methods, including the two-step literature review, two-step opening coding, and two-step theory-constituting process. The three evolvements used in the author-designed GT framework aim to divide the research project into small parts. The broken-down process can lower the research ability threshold, and the evolved process is achievable for early career researchers. This involved a GT research framework that describes the whole GT-based research process and demonstrates how to conduct the research step-by-step in sequence (shown in Figure 8). Our framework not only outlines a roadmap to follow, but this discussion around why these processes appear (amidst the complexities of GT) allows a doctoral or new generation researcher to assist their thinking and further justify their approaches.

Figure 8. Three-Phase Research Framework
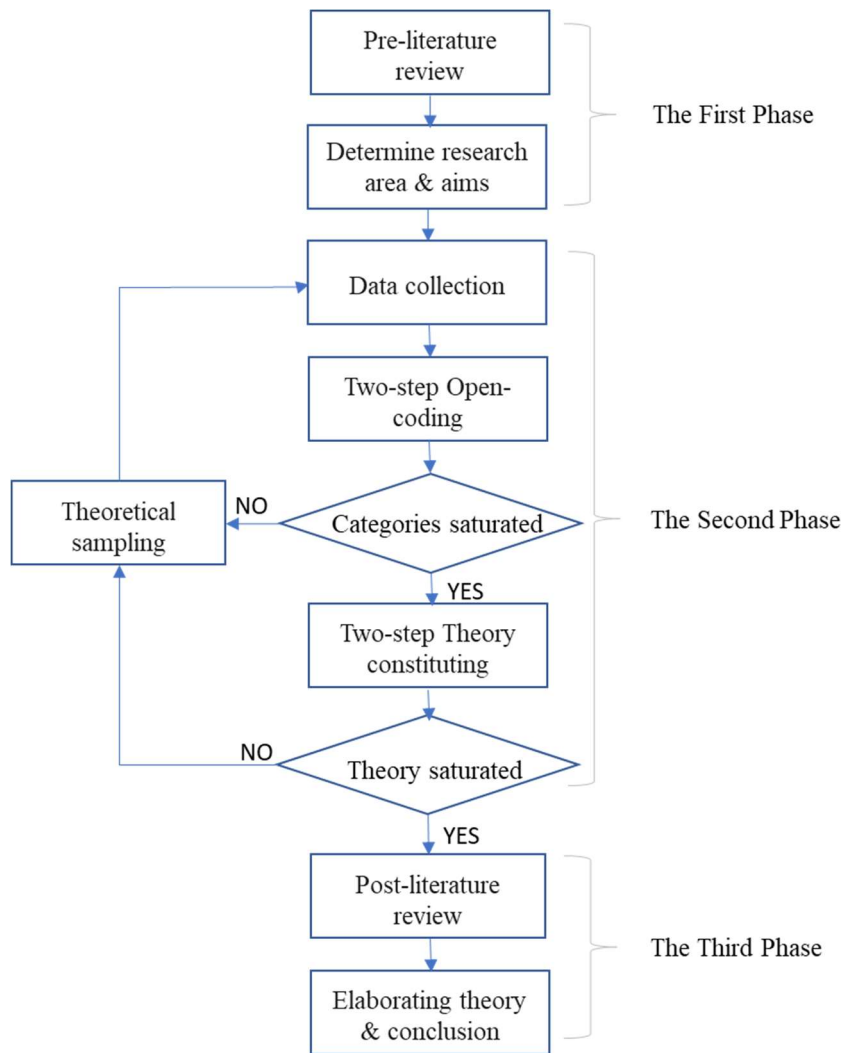
This author-designed framework displays the GT-based study process in three phases, which take place sequentially. The first phase includes two steps, and it starts from a broad pre-literature review and then shifts the wide-ranging research interests into more specific research aims. This phase will consider and combine multiple aspects, such as the innovative value and practical value of the research problem, as well as previous empirical evidence. Thus, there is argument by some that this process could be seen as anti-Glaserian, but we would argue it is a process more carefully aligned to his ideas and within the GT family around the use of literature and then presented within a practical framework that can

be mapped and followed. We hope this clarity in the approach leads to greater confidence for researchers when organizing and aligning their GT activities.

The second phase is the essential part of the GT research procedure that includes data collection, the two-step open-coding process, theoretical sampling, and the two-step theory constituting process. Theoretical sampling refers to the classical GT strategy and gathers additional data to further study the identified categories from the previous steps until the emergent concepts or theoretical concepts are saturated. The two-step open-coding process and the two-step theory constituting process are author-designed from experience within the doctoral project and can be used by other new GT analysts. Of course, how many times theoretical sampling is needed may differ and depends on the results in each data analysis process. For example, the empirical study presented earlier conducted three data collection cycles and analyses to get the saturated emergent themes.

The third phase comprises post-literature review and theory elaboration, which intend to interpret and elaborates the emergent substantive theories with extant formal theories and empirical studies. In GT studies, the definition of the concept (theme) refers to sensitizing concepts. Compared to definitive concepts illustrated with clear attributes or fixed benchmarks, a sensitizing concept lacks precise attributes or measuring criteria (Blumer, 1954). The sensitizing concepts emerge from the data analysis, and it can give researchers a general sense and guide in approaching substantive theories. Subsequently, the post-literature review is to build theoretical relationships between emergent substantive theories and extant formal theory. The association between an existing theory with the grounded theoretical pattern may either expand the formal theory into a new domain or reinforce the GT study's findings. Glaser (2002) states that research originality or creativity does not have to find new theories since most of them are already known in some way. Extending existed theories and knowledge to yet unknown territory can constitute prominent discovery

(Glaser, 1992). Therefore, conducting a post-literature review and establishing relationships between substantive theories and previous studies can enhance GT finding's credibility. Unfortunately, GT studies can receive criticism for missing parts of the GT process like this one. Thus, the framework developed also acts as a constant reminder to fulfill every aspect of the GT process.

Here in this paper, the emergent concept is defined as a general sense or substantive theory, and does not need an accurate definition and or a fixed criteria (Glaser & Strauss,1967). By contrast, this is deferred to the definitive formal theory and concept that refers precisely to a clear definition of attributions or fixed criteria. The substantive theory refers to the definition of constituting emergent sensitizing concepts or themes with theoretical relationships (Blumer, 1954). Glaser and Strauss (1967) clarified that levels of generality would distinguish substantive and formal theories. Substantive theory grounded from the investigated context and it is faithful in the specific empirical situation, e.g. such as the emergent vicarious learning model from the empirical study presented in this paper.

Given both GT's core principles and execution possibility for new grounded theory analysts, this author-designed GT platform implies evolution in three aspects: the two-step literature review, two-step open-coding, and the two-step theory-constituting method.

Two-step literature review method

Along with GT's divergent development, scholars view the construction and application of a literature review differently. Glaser (1992) strongly disagrees with conducting a literature review before the emergent theory because he believes that preconceived knowledge from the literature will constrain grounded theory analysts. He believes preconceived concepts will limit concepts emerging from the investigated data set and recommends a reserve literature review after GT appears, i.e., post-data collection

(Glaser, 2001). On the contrary, other grounded theorists advocate conducting a literature review before data collection and analysis, instead intending to gain relevant knowledge about the target research problems or conceive substantive concepts to study (Charmaz, 2014). Similar to Charmaz, Corbin and Strauss (2008) recommend reviewing the literature in advance to achieve several targets: (1) gain knowledge in the focused research area (2) stimulate research questions (3) stimulate theoretical sensitivity (4) direct theoretical sampling, and (5) provide supplementary evidence and validity. As might be expected, such varied perspectives on literature reviews are likely to cause confusion for new GT researchers. This then feeds into discussions around research tradition. For example, it is often expected within a thesis or journal article that a literature review precedes a methodology followed by findings and discussion. Some forms of GT actively clash with such traditions which may also hinder the potential application of related practices.

There is a GT study that has discussed the controversial opinions for or against the initial literature review (named the literature review before data collection). McGhee et al. (2007) explained that an exploratory literature review is needed to satisfy the researchers and other readers prior to the final decision on the research focus and specific method of the study in the evidence-based research era. Considering McGhee et al.'s (2007) advocation of an initial literature review, the critical idea is to review literature properly. The existing literature is to equip researchers with preknowledge and prepare them to conduct GT studies. Researchers are not necessarily against reviewing literature with empty brains to step into a research focus. Other researchers support this view. Coffey and Atkinson (1996:157) argue:

The open-mindedness of the researcher should not be mistaken for the empty

mindedness of the researcher who is not adequately steeped in the research

traditions of a discipline. It is after all, not very clever to rediscover the wheel, and

the student or researcher who is ignorant of the relevant literature is always in danger of doing the equivalent.

Giles et al. (2013:29) maintain that despite the ongoing debate on the literature review, "a preliminary review can enhance theoretical sensitivity and rigor and may lead to innovative insights. However, researchers must acknowledge the influence of prior knowledge during data analysis and theory development to avoid bias".

Thus far, a growing body of literature has reported sound advantages of the initial literature review even though Glaser strongly disagrees with conducting a literature review before data collection. However, the GT family is still lacking clarification about how to manipulate existing literature and diminish the bias simultaneously. Hence, the authors have proposed the two-step literature review method with explicit process and purpose (as presented in Figure 9). The two-step literature review consists of the pre-literature review (interchangeable with the name of the initial literature review) and the post-literature review. The pre-literature review takes place before data collection and data analysis. It aims to gain knowledge and enhance theoretical sensitivity rather than yield a theoretical framework to guide the data analysis process. By contrast, the post-literature review is after substantive theories have emerged and aims to build a relationship between the emergent theory and extant formal theories and empirical studies.

By following the Two-step Literature Review Process, the pre-literature review will enable researchers to gain knowledge from previous studies, clarify research topics, and subsequently enhance confidence to conduct GT studies. By contrast, post-literature may result differently, such as finding evidence that will support or challenge the present study. The post-literature review may generate more supporting evidence to enhance the emergent findings or find existing studies that are inconsistent and require exploration of the

underpinning inconsistencies. Moreover, the post-literature may find a relationship between the emergent substantive theory and existing formal theories. They will extend the formal theory to new dimensions or develop the emergent substantive concepts to a theory.

Despite clashes with Glaser's original ideas around literature, the author-designed two-step literature review does not breach the core principle within GT research. In contrast, the explicit two-step procedure can assist researchers in the application of their GT approaches within a methodological realm that contains various complexities and contradictions in potential approaches. Here, the two-step literature review method is the first time explicitly articulating the purpose and process of a literature review in (albeit Glaserian-based) GT research. Our approach helps to bridge gaps and potential dichotomies to hopefully lead to a more robust and accepted application of GT.

Two-step open-coding method

Coding is essential in qualitative research, either inside or outside of the GT family (Creswell, 2016). The open coding method is distinguished in GT studies to ensure the substantive concepts can emerge from the investigated dataset. Along with the broad utilization of GT strategies in the past decades, the coding techniques have evolved divergently. Glaser (1992:48) emphasizes that open-coding is critical, but he does not limit the conduction method:

> *To achieve a grounded theory, the analysis cannot code for pre-conceived theoretical codes. He must code for whatever category emerges on whatever unit in the data, and theoretical sensitivity applies to whatever theoretical code fits.*

Glaser's classic GT does not specify a specific coding process (i.e., either conducting a one-step or two-step coding process); he just emphasizes opening-coding in combination

with the constant comparison technique. However, he does explain that selective coding follows open coding (1992:75):

For grounded theory, selective coding starts after and only when the analyst is sure that she has found a core variable. The core category simply emerges from the constant comparative coding and analyzing the data. The care variable then becomes a guide to further data collection and theoretical sampling.

By following Glaser's open coding method, researchers will depend strongly on their theoretical sensitivity to pick out the core categories from the broad emergent variables. For novice GT researchers, successfully traversing this open-coding process without a specific process is a considerable challenge.

Unlike Glaser, Strauss (the other co-founder of GT methodology) went on to develop the axial coding method for GT studies (Strauss, 1987). Axial coding is the procedure whereby GT researchers put back the emergent concepts from the open coding, step back into data and make connections between them by involving context and conditions (Strauss, 1987). In light of the coding purpose, axial coding objectives are similar to theoretical coding to identify the concepts associated with emergent themes instead of grounding core concepts.

By contrast, Charmaz (2014) shared her open ideas about axial coding and the theoretical coding method. She just emphasized open coding initially and neither advocated nor discouraged any other types of coding method after the initial coding step. Bryant et al. (2019) argued that GT research was a big and turbulent family of methods with various interpretations and modifications. Indeed, some of these approaches were conflicted regarding the validity, authenticity, and varying views of key features. Their comments on coding shows that the GM family lacks an explicit and stable GM coding process.

Given all these three styles of the coding process mentioned so far, the intention of this paper was to develop a more explicit and stable GT coding method. Thus, the author-designed two-step coding process combines initial coding and secondary coding. The initial coding step refers to Glaser's comments on open-coding and starts line-by-line initial coding. As a result, the first step of the coding process breaks down the data into meaningful parts for a qualitative study. The initial-coding was to identify all ideas related to leadership in response to LD challenges and how effective leaders are in leading through such challenges. The line-by-line coding results drew out all of the relevant ideas. After that, the secondary-coding process constantly compared all these ideas until the themes emerged. The result of the two-step open coding process was a broad emergent theme list that were inputted for the subsequent step.

Two-step theory-constitute method

There are two types of codes in grounded theory, namely substantive codes and theoretical codes. Substantive codes are identified with general meaning in the specific substantive context and they are not necessarily precisely meaningful in other contexts. Thus, theoretical concepts (codes) normally delineate theoretical relationships between the substantive concepts (Glaser, 1992). This paper refers to Glaser's definition of codes and named themes interchangeably in the GT data analysis context. The Two-step Theory-constitute Method is as follows: identifying central themes in the first step and identifying theoretical themes sequentially in the second step.

The first step is to select and choose the core themes from the list of emergent concepts, and we apply the principles from Corbin and Strauss (2008): (1) abstract; (2) appear frequently in the data; (3) logical and consistent with the data; and, (4) related to each of the other categories. As an example here, our study focused on disclosing

characteristics that impact the effectiveness of an LD program. The emergent themes constitute a broad list, including leaders' personalities (e.g. ambition, empathy, hardness, humble, etc.) and challenging experiences shared by speakers. By following Corbin and Strauss' principle, challenging leadership experience is defined as a central theme as it is the most frequent theme that emerges from the training program, and it is closely related to other emergent themes.

After choosing the central themes, the next step is to find theoretical themes (codes) to build-up the relationship between central themes and consequently constitute the substantive theory. Achieving theoretical integration is not easy for early career researchers, just as Corbin and Strauss (2008:103) stress:

Concepts alone do not make theory. Concepts must be linked and filled in with detail to construct theory out of data. Admittedly, integration is not easy for novice researchers.

In general, there are two different approaches to complete theoretical integration presented by Strauss and Glasser: selective coding and theoretical coding. Strauss (1987:33) introduced the selective coding method within his ideology:

Selective coding pertains to coding systematically and concertedly for the core category. The other codes become subservient to the key code under focus.

By contrast, Charmaz and Glaser emphasized the theoretical coding method in integrating theory (Bryant et al., 2019). By considering the previous methods to constitute the substantive theory, we present the two-step theory method that includes the selection of central concepts and theoretical concepts from the emergent themes list. On the one hand, this method refers to the GT's rule: all concepts emerge from data instead of forcing data.

On the other hand, the two explicit steps can break down a complex task into small pieces that will help new GT researchers accomplish the challenging task of theoretical integration.

4.1.6. Applying the Evolved Framework in Practice

Glaser and Strauss (1967) founded GT decades ago and have demonstrated that the GT-based data collection and analysis procedure is a flexible qualitative method. This authored-designed GT framework displays an explicit process for new GT researchers to develop theories flexibly and constructively. This paper illustrates how this flexible framework was utilized to conduct doctoral research by exploring the approach adopted, particularly through explaining the process of theoretical sampling and the literature review.

Three circles leadership development analysis

One empirical aspect of the doctoral research example, focusing on effective LD, intended to reveal the characters which impact LD effectiveness in a LD program context. Furthermore, the study was to advance understanding of how and why these factors influence participants to build-up their leadership capabilities. To achieve the research purpose, this empirical study completed the whole analysis process in three cycles of data analysis, sequentially. Here, one cycle means one phase of data collection and data analysis. This LD focused study involved an initial data collection and followed by two cycles of theoretical sampling; thus, three cycles in total. The initial data collection and two cycles of theoretical sampling resulted in 1,226 reflective answers collected from 42 participants involved in an LD training program. The first cycle of analysis resulted in two broad themes: (1) Inspired to learn by others' leadership experiences, and (2) Build-up leadership capabilities.

Moreover, some participants reflected that the challenging experiences of others inspired them. Unfortunately, there were not enough pieces of evidence emerging from the

initial data to saturate the concept of how the challenging experiences of others motivated them to develop leadership skills. Within the theoretical sampling from the first and second circles of data collection and analysis, the central themes emerge as challenging experiences that can strongly impact the effectiveness of the LD program. However, there is still no saturated concept to explain what characteristics of the LD program will negatively impact LD effectiveness. Thus, the second theoretical sampling and data analysis occurs and finds that 'no sharing of personal experience' may diminish the LD effectiveness in causing a low level of participant engagement.

Using the literature review wisely

During the pre-literature review associated with the topic of effective leading, the researcher was excited by a positive psychological theory that is Broaden and Build Theory (B&B). Fredrickson (2001) developed this theory and she found that positive emotions can broaden individuals' attention scope and thought-action repertoires. The extant studies found that positive emotions can impact leadership effectiveness in terms of performance, employee engagement, and well-being (Fredrickson & Joiner, 2018; Lin et al., 2016; Meneghel et al., 2016). Therefore, the authors believe there is a relationship between B&B theory and resilience; subsequently, B&B can be utilized in LD studies.

When doing data collection and data analysis, the authors applied the Evolved Grounded Theory Framework instead of guiding the analysis process with the B&B theory as a pre-conceived concept. At that time, the researcher believed that the B&B theory will emerge from the data. However, there are no themes relevant to positive emotions emerging from the data analysis at all. The researcher was disappointed and had to put B&B aside to wait for the next empirical study.

After that, the researcher was still willing to use B&B theory in the second empirical

study and wanted to find a relationship between B&B theory with leadership resilience. However, when doing the post-literature review to interpret the emergent substantive theory about how Leadership Resilience Demonstrates in Actions, the researcher could not find emergent themes about positive emotions. In other words, there was a failure in finding a relationship between B&B theory and leadership resilience (at least, not yet). Thus, with this in mind, it is perhaps pertinent to express that GT based studies should employ the literature review wisely and cautiously. Otherwise, a pre-conceptual framework may mislead the data analysis and yield different results. To summarize, when facing the dilemma of pre-conceived knowledge and non-preconceived coding concepts, reflect on the GT core principle and use the pre-literature process to improve theoretical sensitivity and analytical ability. Do not let the pre-conceived concepts misguide the research strategy. Fortunately, the explicit Evolved Grounded Theory Research Framework can help other researchers conduct GT studies step-by-step whilst maintaining the composure of its principles and processes. Researchers can innovatively and flexibly use a literature review with clarified purpose, just like the author-initiated two-step literature review. It is hoped a more transparent research procedure can improve research quality overall for GT studies.

4.1.7. Conclusion

This paper makes a number of contributions. 1. We discuss some of the unique tensions and differences within GT approaches with a view to overcoming them. 2. We offer a systematic framework that a doctoral student or new researcher could follow when attempting to traverse the complexities of GT. 3. We overlay this new framework within a live doctoral research project to further bring to life the process outlined. 4. We offer attempts to further legitimize and validate GT approaches through a formulaic process that hopefully helps potential journal article reviewers and doctoral examiners within their judgments of the GT research approach adopted.

We first discussed an overview of key GT approaches and debates and found that GT has developed divergently and the somewhat controversial conversations make it difficult for new generation researchers to conduct a GT-based study. In order to break down a complex GT procedure into smaller parts, this paper offered three evolvements: the two-step literature review method, two-step open-coding method, and two-step theory constitute method. By integration of Glaser's four core principles and the three evolvements, this paper presented an author-designed three phases research platform. The breakdown analysis techniques and step-by-step framework provide key guidance, confidence and rigour within a GT approach, which will encourage and assist other new generation researchers in conducting GT research in their substantive area. Furthermore, the live-author-led research experience within grounded theory may inspire further technical development and enrich the grounded theory family.

The unique framework captures and gathers distinctions within GT whilst maintaining flexibility, depth, and rigour within a study. In particular, the first identified two-step literature review may address some misunderstandings of literature and provide an innovative application in GT. The result might change some of the stereotype bias of GT and allow other researchers, doctoral students, and new GT researchers to conduct GT research innovatively and subsequently extend GT applications.

Indeed, GT could be a valuable approach during a time of COVID-19 as we seek flexible methodologies for our studies. Yet, maintaining that depth and rigour will also be crucial within this application, and the framework can assist researchers in that way. The three evolved analytic methods and author-designed three-phases framework is developed within an LD project with a rich data set (more than one thousand open-ended answers). Whilst, on the one hand, this offers a practical application, it also, on the other hand, highlights a limitation because of its fixed context. Thus, there are still connections to be

made by a researcher in terms of applying GT conventions appropriately to their own research project.

Of course, there are limitations around what we discuss. The framework presented needs to be tested beyond the context here to demonstrate its value for doctoral students and new generation researchers. Other researchers can hopefully build on this framework and provide further advancements around the complexities discussed. We welcome such developments and see this as a necessary part of keeping GT contemporary and relevant within research in general. In addition, there could also be a lot more to discuss and explore from a philosophical perspective. We have, in the main, remained centred around the complexities within the procedures and processes of GT, but other researchers could develop philosophical and methodological perspectives as there are potential discussions worth revisiting, e.g., 'how is knowledge developed?', and so on.

Chapter 4B: Two Empirical Studies

4.2. Study 2. Vicarious Learning in Developing Leaders' Capability of Dealing With Challenges: Learning from Others' Challenging Experience and Resilient Response

4.2.1. Abstract

Purpose – Some existing LD programs are reviewed as unsatisfied in developing problem-solving skills, which are necessary for contemporary leaders. Hence this study aims to reveal insight into how to build leadership capability to deal with various challenges through vicarious learning from others challenging experiences.

Design/methodology/approach – This qualitative study focuses on providing insights into how to prepare leaders for challenges. The study adopts Glaserian grounded theory data-analysis techniques and follows a three-phase analysis process to investigate 1226 open-ended reflections of 42 leaders on guest speakers' shared leadership experiences in a 10-month leadership development program.

Findings –This study found that leaders can be strongly motivated by others' leadership resilience demonstrated in dealing with various challenges and build-up leadership capabilities. By observing others' challenging experiences and resilient responses, leaders could be more aware of their ability and be confident in transferring learning into action. These findings provide insights into problem-solving development through 'How' (motivation to learn), 'What' (resilient attitudes and behaviour), and 'Why' (enhanced leadership skills, awareness, and self-efficacy).

Research limitations/implications – As an exploratory qualitative approach, this study presents preliminary results and requires more empirical research to test the generalizability. Future studies are encouraged to investigate how vicarious learning impacts leadership development across various cultural contexts and quantitative methods.

Originality/value –The study outlines the importance of challenging experiences in vicarious learning mechanisms and adds specificity to preparing leaders for challenges in terms of How and What.

Keywords: leadership development, vicarious learning, leadership resilience, challenging experiences

Article Type: Research paper

4.2.2. Introduction

The contemporary workplace has become complicated and competitive, and organizational leaders are expected to navigate digitalization, globalization, and increasing uncertainty (Uhl-Bien et al., 2007). Constant enhancement of leaders' capabilities is needed to cope with these complex environments and fulfill numerous responsibilities (Day, 2000). Leadership development (LD) programs are a popular way of addressing gaps in leadership competency. For example, Feser et al. (2017) stated that the global leadership development industry is estimated to be worth more than $50 billion. The outcomes of LD programs, however, are mixed.

Day and Dragoni (2015) reported that two-thirds of the more than 3,500 surveyed senior leaders across 50 organizations thought their organizations' leadership development practices were 'broken' because LD results were not satisfying the requirements of developing leaders' problem-solving skills. Feser et al. (2017) reported that only 11 percent of the 500 investigated companies agreed that their LD investment achieved the expected results. Others claim that they are disappointed with the return on their investment in LD and that LD courses are just a way of lavishing time and money on programs (Gurdjian et al., 2014).

In addition to the mixed reviews about LD programs' effectiveness in delivering positive outcomes, there are also mixed views on what type of competencies LD programs should focus on. A recent survey by Volini et al. (2019) found that many people believe that organizations have new leadership needs. The majority (81%) of respondents believe that leading through more complexity and ambiguity is the top skill required to become and remain a successful leader (Volini et al., 2019). This argument is similar to Kragt and Day (2020) , who reported that leadership competencies distinctly differ as well as develop over time and that competencies that focus on adapting to changes, managing stress, and valuing diversity should be adopted in LD programs.

While these latter reports emphasize that contemporary leaders need to be capable of dealing with challenges, none provide an adequate assessment of the type of instructional design that would be best to deliver on these new competencies. This study explores how leaders can accumulate their capabilities to confront various challenges by learning from others' challenging experiences, which is underpinning the vicarious learning mechanism.

4.2.3. Literature Review

Leadership development has been investigated for decades, in conjunction with the debate between advocating for and criticizing LD programs and training activities. Researchers have reviewed the extant LD studies and reported generally positive results. Burke and Day (1986) systematically reviewed 70 managerial training programs and showed that 90% of the training results were positive, based on four measures: subjective learning, objective learning, subjective behaviour, and objective behaviour. Based on the evaluation framework designed by Burke and Day (1986), Collins and Holton (2004) conducted a meta-analysis of leadership development programs implemented from 1982 to 2001 and reported that the leadership knowledge outcomes were more effective than in Burke and Day's (1986) meta-analysis. Avolio et al. (2009) investigated 200 experimental LD programs within laboratory and field contexts. They reported that 66% of LD interventions resulted in positive outcomes, such as improving leaders' competence, responsiveness, and the causal effects on followers' job satisfaction and job performance at the individual, group, and organizational levels. They also found that, in their three categories of leaders, lower-level leaders (e.g., direct supervisors) had a more significant overall effect than either middle-level or high-level leaders, such as CEOs or presidents. This finding may point to training results from the opposite perspective: middle and high-level leaders' LD interventions were not reported to be at the same satisfaction level as entry-level leaders. However, this LD meta-analysis did not acknowledge this explicitly, nor did it investigate any underlying reasons.

Lacerenza et al. (2017) conducted a meta-analysis of 335 training programs based on four criteria (reactions, learning, transfer, and results) and found that differing design and delivery characteristics could result in varying LD outcomes. One reason for this was the question as to whether the LD program conducted a needs analysis. Needs analysis seeks to clarify an organization's training needs in terms of the organization's objectives or to determine organizational problems that training could resolve. Thus, effective LD programs may design and deliver content based on awareness of the needs of organizations and individual leaders, e.g., middle and high-level leaders in dynamic and competitive work environments (Alvesson, 2019).

On the other hand, dissatisfaction with LD programs may be caused by two problems. The first is that most extant LD programs seek to develop leadership skills based on leadership knowledge and a skills-based model. These models emphasize developing basic leadership knowledge and skills and significantly develop entry-level and medium-level leaders. However, these traditional LD approaches do not fully understand and emphasize the need to deal with changes, complexity, and other challenges. Most LD training programs did not clarify the related requirements of developing leaders for dealing with challenges, which are vital skills in the complex and dynamic contemporary world (Salicru, 2020). On the other hand, the traditional skills-based LD models would not develop leaders to solve their challenges (Heifetz et al., 2009). This may arise through a limited understanding of what type of capabilities can equip organizations and leaders to deal with contemporary competitive situations. In other words, extant LD training activities and academic studies lack a focus on developing the capabilities for dealing with challenges.

The second LD problem is the mismatch between LD requirements and delivery methods (Hannum & Craig, 2010). Most LD training delivery methods can be organized into three broad categories: information-based, demonstration-based, and practice-based training

(Lacerenza et al., 2017). Information-based training programs, such as lectures, presentations, and most text-based training materials, are good at teaching knowledge. However, demonstration-based methods often utilize examples via in-person, audio, and video, and in so doing, help trainees advance their skills. The third category, practice-based approaches, includes various training types, including role-play, simulations, guided practice, role-playing, coaching, or mentoring. Scholars have found that practice-based training activities are critical to enabling trainees to fully conceptualize knowledge and skills and implement these within a realistic environment (Kalinoski et al., 2013). From the social learning perspective, people can learn skills and behaviour through self-practice and observing others (Bandura, 1986). Thus, trainers' experiences and capabilities demonstrated in training programs may be essential to motivate participants to observe and imitate. However, none of the three popular LD training designs elaborate trainer role functions, even though some studies have reported that trainers may impact LD effects. For example, skillful charismatic and transformative leaders' behaviour motivated others to follow (Allison & Goethals, 2013). The knowledge in literature to explain how trainers shared experiences, underpinning the vicarious learning mechanism, may impact LD programs is limited.

In 1962, Albert Bandura initially reported that people could learn skills and behaviour by observing and imitating others (Bandura, 1962). Later, Bandura (1965) defined the mechanism of learning from others as vicarious learning. In recent decades, vicarious learning has been widely used in education and adult learning (Hoover et al., 2012). For example, one study investigating undergraduate nurse students in the UK found that role modeling effectively supports learning across clinical and university settings (Benbassat, 2014). A later study investigated 30 graduate students and found that successful entrepreneurial role models, underpinning a vicarious learning mechanism, may positively influence entrepreneurial attitudes and lead to a higher orientation of social benefits (Boldureanu et al., 2020). These

studies pointed to the effects of vicarious learning in education through imitating a role model.

Some leadership studies have also found that effective vicarious learning from ideal examples, e.g., role modeling, can benefit individuals or organizational performance (Brown et al., 2005; Grobler & Grobler, 2019; Presbitero & Teng-Calleja, 2019). Brown et al. (2005) found that ethical leaders who behave as role models can encourage employees to imitate these behaviours and perform better. Grobler and Grobler (2019) investigated 1,758 employees in South Africa and found that vicarious learning from role models could explain the positive effect of ethical leadership on employees' work outcomes. These prior studies have shown the application of vicarious learning mechanisms in various contexts, such as the education industry and on-the-job training at workplaces. The current study investigates vicarious learning in an LD program and discovers how it impacts developing leaders' problem-solving skills.

According to social learning theory, leaders acquire problem-solving abilities through self-practice and observing others (Bandura, 1977b). Experiencing challenges is essential in developing individuals' problem-solving skills and positively affects job engagement and job satisfaction (Mancini, 2019; Seery et al., 2010). Zaleznik (2004) reported that individuals who experience certain difficult obstacles and challenges accumulate leadership skills. Elkington and Breen (2015), analyzing self-assessment data collected from 167 leaders in the USA, found that obstacles and developmental experiences were a logical and necessary part of leadership development. Studies also found that individuals who had undergone bad mood or failure experiences may improve their interpersonal skills (Baldwin, 1992; Baumeister et al., 2001) and creative performance (George & Zhou, 2002). A recent article investigated the role of adversity in developing Black women leaders in the USA and found that leaders'

adverse life experiences may be transformed into resilience and benefit their later leadership development (Chance, 2021)**.**

Some other studies also demonstrate that experiencing adversity, e.g., through encountering obstacles (Elkington & Breen, 2015), failed projects (Kohler et al., 2018), crises (Livingston, 2017), or other failure cases (Catalano et al., 2019; Krieger, 2021), may help leaders enhance their problem-solving ability. However, if and how challenging experiences could be antecedents of motivation to learn is limited in the literature. In particular, how trainers' attributes under challenging situations may determine participants' motivation to learn is unexplored. This study, therefore, investigates how trainers' leadership experiences impact participant leaders involved in an LD program, including challenging experiences. And this would be realized through a vicarious learning mechanism to develop his/her capability to deal with challenges. In particular, the current study explores the motivating and demotivating factors to learn in the LD program, as the motivation to learn is critical to predicting learning results (Noe, 1986).

4.2.4. Research Method

Sample and Data

The data were collected from participants involved in 10-month leadership development (LD) program in Australia in 2013. Forty-two leaders participated in the program. The majority of the participants were middle-and high-level leaders from diverse Australian organizations.

The LD program involved 16 'in-class seminars' delivered by well-regarded industry leaders. Participant leaders (trainee leaders in this study) were expected to contribute to the seminars by asking questions and reflecting on their learnings later. All 16 guest leaders (trainer leaders in this study) were experienced leaders from different industries, including

resources, education, and healthcare. Their positions included three chief executive officers (CEOs), four organizational directors, four academic leaders, and five experienced government or public service leaders.

Each of the guest speakers (ten male and six female) hosted one LD seminar. During that seminar, the guest speaker shared his/her leadership experiences, personal stories, challenges, and responses to the difficulties or disasters they or their organizations faced. After each guest speaker's session, participants were asked to anonymously reply with their reflections through email to the LD program organizer. Their feedback about what inspired or demotivated them to develop their leadership capabilities were based on one or more similar open-ended questions, such as '*What inspired you to learn?*' and '*What did you learn from the session (or the program)?*'. At the end of the program, participants were asked to provide detailed feedback on the LD program in the final survey. The responses to these questions were the subject of the data analysis. In total, the current study investigated 1226 responses of 42 leaders reflecting across 16 LD training sessions and the final survey.

Analysis Approach

Ketokivi and Mantere (2010) explained that inductive qualitative studies, like the current qualitative study, can derive general theoretical meanings from particular phenomena. However, the findings of qualitative studies were criticized for their inherited non-analytical bias. Ketokivi and Mantere (2010) argued that the problem of qualitative approaches was derived from the less scientific reasoning process, and a systematical process might encounter these issues, such as grounded-theory approaches.

Grounded Theory (GT) is a flexible method to disclose emergent theoretical patterns by investigating empirical data (Glaser & Strauss, 1967). With the rich evidence reported in recent decades, the systematic analysis process within the grounded-theory method can

largely alleviate the inductive issues in developing theoretical constructs. Thus, to build-up the research quality, the current research adopted the grounded-theory research method and followed the 'Three-phase Data Analysis Framework' (Yu & M Smith, 2021, p. 559), which adopted Glaser's (2001) core grounded theory principle.

The first phase includes a pre-literature review, research problem identification, and defining research aims. The second phase adopts grounded-theory procedures and involves a two-step open-coding process, theoretical sampling, and a two-step theory constituting process. Theoretical sampling is one type of data collection method of gathering additional data to further investigate the identified categories from the previous steps until the emergent concepts, or theoretical concepts are 'saturated' – reach the saturation point in new information (Corbin & Strauss, 2008). To saturate emerging themes, this study completed the whole analysis process in three cycles of data collection and analysis, including two cycles of theoretical sampling. The initial data collection and two cycles of theoretical sampling resulted in 1,226 reflective answers. This data set has no demographic information, such as name, gender, age, education, etc.

The two-step coding process combines initial coding and secondary coding. The initial coding step refers to Glaser's (1992) comments on open-coding and starts with line-by-line initial coding, identifying all ideas related to each research question. The line-by-line coding results draw out all relevant ideas in the master lists (these are available from authors upon request). Then the secondary-coding process constantly compares all these ideas until themes and sub-themes emerge from ideas. The two-step theory-constitute method identifies the central theme in the first step and sequentially identifies theoretical themes in the second step. The central theme is the most frequent theme that connects with other themes or sub-themes, and theoretical themes (concepts) normally delineate theoretical relationships between the substantive concepts (Glaser, 1992). The second step is to find theoretical themes (codes) to build-up the relationship between central themes and consequently constitute the substantive theory. As a result, this two-step coding and the two-step theory-constitute process result in a master list of similar concepts, including, Participants' Reflections on What They Learned, Participants' Reflections on What Inspired them, and Participants' Reflections on Both What Inspired Them and What They Learned (see pages 74-83). Some examples are listed as follows.

Participants' Reflections on What They Learned

1. *Some speakers have talked about issues that have challenged my thinking and even made me realize I did not want to be that type of leader. For example, those that spoke about only being able to achieve leadership positions through long hours and sacrifice. But there were others who really left a lasting impression on me and have encouraged me to think about my own leadership style and how I lead my organization. They have focussed my thinking and encouraged me to think outside the square; be brave; be confident and be authentic. It has been a year of personal growth and development. The*

experiences have made me think about who I am and where I want to be as well as how to position myself to get there.

2. *This has been a true benefit of being part of this program. The access we have received to leaders across corporate, government and NFP (and some very high profile) has been fantastic and not something that can be readily replicated. Whilst the leaders have been varied (in frankness, some more 'leaders' than others), many have provided some gem or quality that I have been able to reflect on and look to integrate into my thoughts on leadership.*

Participants' Reflections on What Inspired them

3. *Communication is the key, grab opportunities and extend your influence through strategic thinking. The importance of transparency, integrity, and authenticity in letting people know what you want to do is paramount. After each experience, the reflection provided an opportunity to link learning to my own leadership journey and practice. This has been very valuable.*

4. *I found the opportunity to listen and learn from such a diverse and experienced group of leaders truly amazing. Their insight and knowledge were invaluable in my own leadership journey.*

Participants' Reflections on Both What Inspired Them and What They Learned

5. *I found that I could learn from their experience at different stages of their career journey that aligned with my own. My learning from a homeless person in Perth has been just as enriching as the CEO of a large national corporation, which is a reminder for me not to judge a book by its cover. I had some level of insight and knowledge of many of the issues presented to us, but having an experienced speaker to deliver the messages gave me a deeper understanding.*

6. *There have been a number of management style wisdom from both guest speakers and cohort members, which I have taken back to use within my own team, and I have also flagged a few opportunities for consideration in strategic areas of our business.*

The third phase comprises a post-literature review and theory elaboration, which interpret and elaborate the emergent substantive theories in light of extant formal theories and empirical studies. The pre-literature review of the two-step literature review enables researchers to gain knowledge from previous studies and clarify the research topics. The post-literature review aims to search for more supporting evidence to enhance the emergent findings. It also seeks to find a relationship between the emergent substantive theory and existing formal theories.

4.2.5. Findings

The three-cycle data collection and analysis resulted in 189 repeating ideas. By constantly comparing the similarities and differences, 14 sub-themes and three themes emerged: (1) Building-up leadership capabilities (reflected by participant leaders), (2) Inspiring and Motivating factors(observed in trainer leaders, guest leaders in this study), including challenging experiences and their resilient response, personal stories, multiple-leadership competence, and (3) Demotivating factors (observed in trainer leaders-guest leaders in this study) (Table 7). Below are descriptions of detailed results for each theme.

Building-up Leadership Capabilities (reflected by participant leaders)

The first finding of 'Building-up leadership capabilities,' reflected by participant leaders, is displayed in three sub-themes: impact on self-efficacy, skills and knowledge, and leadership awareness. The first sub-theme is 'building-up my confidence'. Repeating ideas with similar meanings were categorized, such as 'I built up my self-efficacy', and 'I am more

confident in performing'. One example is quoted: *I am more confident but with greater empathy and ability to pass on my experiences to others to grow through the organization (Participant 5, final survey).*

Participant leaders reflected their leadership confidence directly by being exposed to trainer leaders' shared experiences or to be more confident by accumulated leadership capabilities, such as the following example.

I now have the ability to share that knowledge with my colleagues, friends, and family on issues that I probably would not talk about in the past, but I now have an informed opinion and feel that I can contribute to the discussion, debate, and influence them (Participant 9, final survey).

Table 7. Emergent Themes and Sub-themes

	Themes and Sub-themes	Number of Repeating Ideas
1	**Building-up leadership capabilities**	**77**
	Leadership self-efficacy	(43%) 33
	Leadership skills and knowledge	(39%) 30
	Leadership awareness	(18%) 14
2	**Inspiring and motivating factors**	**87**
	Work challenges and resilient responses	(66%) 57
	Multiple-leadership competence	(25%) 22
	Leaders' personal stories	(9%) 8
3	**Demotivating factors**	**21**
	No real personal experience	(81%) 17
	Not new information	(19%) 4

The second sub-theme explains that participant leaders acquired leadership knowledge and skills through exposure to various program components, either from other leaders' successful experiences or their experience in dealing with challenges. One participant described it: *The leadership program has expanded my knowledge of the different types of leaders and leadership styles. I understand a deeper meaning of leadership by having*

encountered such diversity in the speakers across the year. I became extremely clear about

my leadership philosophy (Participant 2, final survey).

This quote illustrates that participant leaders can learn leadership ability through guest leaders' shared leadership practices, such as trainee leaders' personal leadership preferences or leadership skills (communication skills as the following).

I have been fortunate to have left every experience with either a new leadership 'tool'

or, more commonly, a better way of using the knowledge (tools) I already possess. The most

obvious example for me has been reinforcing the importance of the human side of my

leadership role and increasing the opportunity for communication in every instance

(Participant 3, final survey).

The third sub-theme is 'Impact leadership awareness'. One participant's explanation is quoted: *The experiences have made me think about who I am, where I want to be, as well as how to position myself to get there. It made me realize that for me, how it feels is the difference between good and great (Participant 3, final survey).*

Per the previous and the following quotes, participant leaders will be more aware of their strengths or weaknesses compared with guest leaders sharing, which will impact leaders' practices in dealing with tasks or challenges, such as what to do and what to avoid. These reflections on leadership awareness can demonstrate how this LD program impacts participant leaders' leadership capability.

I became extremely clear about my philosophy of leadership and both how I want to

lead and how I want to be led. It brought into relief where I think my leadership strengths

are and areas where I need to focus actively (Participant 4, final survey).

The leaders I have been exposed to over the year have caused me to try to be less

arrogant as a leader; to be more mindful of the fact that I don't have all the answers and

neither am I required to, and have caused me to reconsider what successful leadership looks like for me (Participant 8, final survey).

These three emergent sub-themes showed that participants could build-up their leadership capabilities by observing guest speakers' leadership experiences, such as improved self-awareness and self-efficacy. This finding supports leadership scholars' arguments that awareness and self-efficacy are essential abilities for managers and leaders and addresses the call for studies to develop such skills (Caldwell & Hayes, 2016; Northouse, 2015; Tesone, 2009; Yukl, 2010). Thus, this finding supports that incorporating shared leadership experiences in a leadership program can effectively develop leadership capabilities, especially in enhancing leaders' awareness and self-efficacy.

Inspiring and Motivating Factors (observed in trainer leaders)

Participants reflected that they were inspired by guest speakers (trainer leaders) when the guest leaders shared their work challenges and resilient responses, multiple-leadership competencies, and personal challenges. In particular, when trainers demonstrated resilient attitudes and resilient behaviour in dealing with challenges, participants were motivated to learn these coping skills and imitate these attitudes and behaviours to address their own work or life challenges. These five sub-themes acted as positive stimuli for learning from others' experiences and motivated them to transfer what they learned into action, which is considered positive LD results.

As participants reported, the first three sub-themes showed that participant leaders were inspired and became more confident in emulating guest leaders with shared challenging experiences and demonstrated leadership resilience, including resilient attitudes and behaviour. Psychological resilience, defined here as the capacity to bounce back from adversity and failure (Luthans, 2002), can help individuals cope with work complexity and

improve employee and organizational outcomes (Bargavi et al., 2017; Koen et al., 2013; Sommer et al., 2016; Su & Linderman, 2016). In the current study, resilient attitudes were recognized when displaying calm responses to challenges, adaptability to a problematic situation, or a positive perspective in the face of adversity. This definition is referred to as the Connor-Davidson resilience scale (CD-RISC), which has been used to measure various cohorts' resilience, e.g., children (Roy et al., 2011), young adults (Notario-Pacheco et al., 2011), adults (Blanco et al., 2019; Jalilianhasanpour et al., 2018), and older people (Lamond et al., 2008). In particular, some indicators in this inventory can specify individuals' resilience as their attitudes or perspectives to challenges, e.g., change, obstacles, pressure, and failure (Campbell-Sills & Stein, 2007).

Participant leaders reflected that guest speakers' challenging experiences served as a powerful example of resilience. Specifically, resilient attitude and resilient behaviour, were observed from others' challenging experiences. Some guest speakers shared experiences about how they responded to challenges or adversity and showed their resilience when faced with high pressure or adversity. These observed resilient attributes or behaviours strongly motivated participants to consider and adopt changes. An example of reflection on a resilient attitude, i.e., calmness under incredible pressure, is provided below:

What I liked so much about it is his absolute calmness and easy demeanor, despite the incredible pressure, he must feel on a daily basis in his role (Participant 7 reflects on the session of Guest speaker B).

What did surprise me was that despite the diversity of leaders we met, there was an enormous amount of consistency in their approach and values.   It also struck me that, from a pretty impressive crop, there were some leaders who I found far more inspirational than others.   What made the huge difference at the margin was two

things alignment of values and the attitude and enthusiasm they bring (Participant 17

reflects on the final survey).

These reflections show that trainer leaders' calm attitude or consistency under incredible pressure toward disaster will motivate trainee leaders to be capable while facing adversities. In addition, guest speakers' resilient behaviour in responding to challenges inspired participants to learn. In this study, two types of resilient behaviour were recognized: 'being resilient in leading others' and 'positively reacting to adversity'. Examples of the participant's reflection on guest leaders' resilience are quoted:

She showed strength and courage; she shared her innermost thoughts of how she

survived such an ordeal for herself and her whole family. We acknowledged her

resilience and coping strategies and her ability to reach out for support when you

might just want to give up (Participant 9, Guest speaker A).

This reflection shows that leaders' 'innermost thought' (attitude toward adversities) and effort to access resources under pressure can motivate trainee leaders in the leadership development program.

Having first-hand personal accounts of many individuals' responses to private and

professional challenges as a person and in their leadership capacity is a rare and

insightful gift (Participant 20 reflects guest leader B).

The second sub-theme reflected by participants is guest leaders' multiple-leadership capability which inspired participants to consider how to position themselves in challenging workplaces and make behavioural changes. Examples are noted below:

There have been a number of management-style wisdom from both guest speakers and

cohort members, which I have taken back to use within my own team, and I have also

flagged a few opportunities for consideration in strategic areas of our business

(Participant 1 reflects in the final survey).

Communication, passion, vision, courage, and an incredible work ethic were themes

that resonated throughout the year (Participant 25 reflects on Guest speaker H).

These participant leaders' reflection shows the vital of multiple-leadership capability, such as management-style wisdom or some leadership skills (communication, passion, vision, courage, and leadership integrity) that may motivate others to imitate. In addition, this study found that participant leaders could be strongly motivated to learn from shared personal stories by guest leaders. Observing guest leaders' personal difficult experiences allows an individual to enhance their leadership awareness and self-efficacy. For example:

It was great to get your perspective and understand your leadership journey - which is

a lot different and further advanced compared to my own. I got the most from the

stories you shared - about your family, upbringing, resilience, and early leadership

experience. (Participant 29 reflects on Guest speaker F).

Listening to other leaders' stories about their career path, their challenges, and what

they deemed was important to their leadership really helped to hone a sense of what

good leadership means to me (Participant 31 reflects in the final survey).

Their open, honest, and frank discussions about their own journeys have been inspiring,

reflective and enlightening (Participant 40 reflects in the final survey).

As mentioned above, trainee leaders may compare their one challenging situation with trainer leaders' challenges and are motivated to think about what is essential to effectively lead by trainer leaders' challenges, frank sharing, and resilient responses. Thus, these emergent sub-themes are recognized as inspiring factors in learning from others' leadership

experiences, i.e., challenging experiences and resilient responses, multiple-leadership competencies, and personal stories.

Demotivating Factors

The analysis also revealed that some aspects of the LD program demotivated participants. For instance, participants reflected that the repetitive information shared by guest speakers was not inspiring. Participants were also demotivated when guest speakers did not appear frank in sharing their personal experiences. These two factors may negatively affect participants' engagement in an LD program and consequently diminish the LD program's effectiveness. Examples are as follows:

The guest speaker didn't allow us to hear his personal struggles or what he actually thought or believed. The man behind the professional shield. (Participant 4 reflects on Guest Speaker G)

There was nothing that he said that really provoked me. He did not 'walk the talk' when it came to gender equity and integrity on moral issues such as the sale of alcohol and gambling. (Participant 30 reflects on Guest Speaker C)

I personally didn't get a lot out of this guest leader's presentation; his responses were too reliant on the policy to be the answer. Wealth creates wealth, and competition inspires innovation which energizes the market and creates jobs which in turn creates stronger intelligent communities. Yes, in the textbook this would be so; however, the reality is in our backyard, and you only have to look at it to see that textbook policy is not working. (Participant 35 reflects on Guest Speaker E)

I felt the talk was quite superficial and stats-based, and there was no real discussion on leadership – other than that, it is required to bring about the vision and is the hard bit. (Participant 33 reflects on Guest Speaker F)

Some trainee leaders reflected that they lost their interest or trust in trainer leaders when they did not act as they said or trainers only repeated knowledge in the textbook. In general, reflections showed that participants are demotivated to learn when trainer leaders are recognized as not presenting real personal experiences or as just intending to show their professional skills through repetitive information. In this scenario, participants may feel trainers are disguised beneath professional 'masks', which is harmful in creating and maintaining trust relationships (Tschannen-Moran, 2014), and this consequently weakens learning engagement and LD results. This finding may explain how real personal stories and challenging experiences are motivating factors from a different perspective: that is, keeping it real and using tough situations are needed as part of vicarious learning.

4.2.6. Discussion

The summary of findings can constitute the model of Building-up Leaders for Challenges through Vicarious Learning, which points to the efficacy of vicarious learning from others' challenging experiences to build-up leadership capabilities to confront challenges (see Figure 8).

Figure 8. Building-up Leaders for Challenges through Vicarious Learning
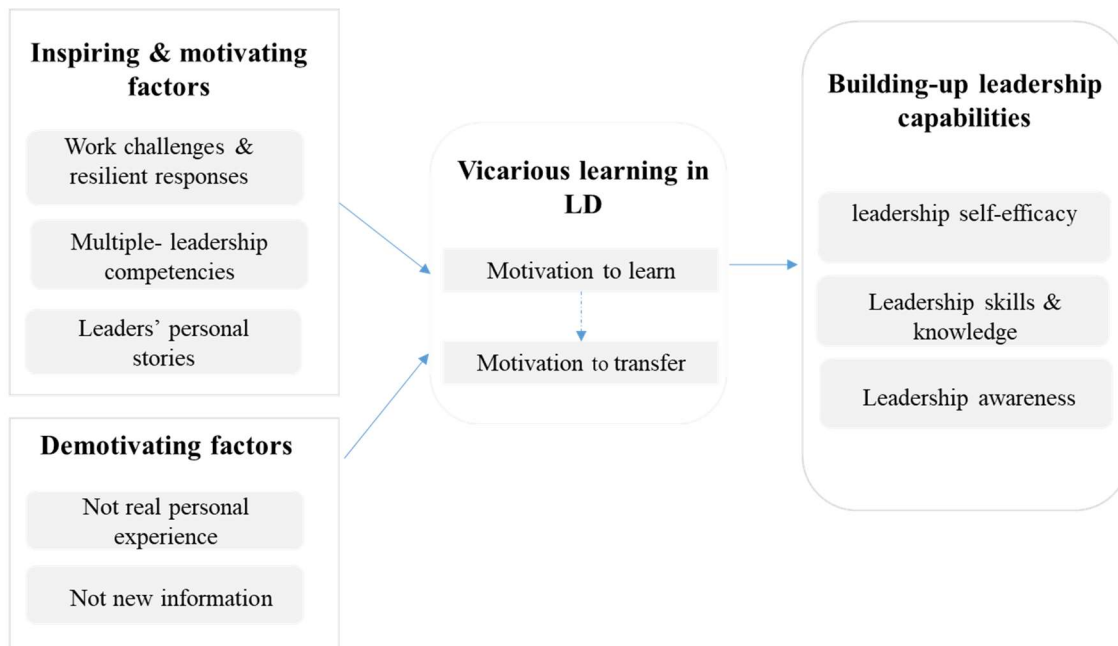
This model shows that participants in this LD program were inspired and motivated to improve their leadership capabilities and practices by observing guest speakers' diverse leadership experiences, personal stories, and examples of their resilient attitudes and resilient behaviour in challenging situations. The current study showed how challenging experiences within a vicarious learning context could influence leadership development through motivation to learn and, more importantly, through the transfer of knowledge and skills on the job. Joined with the vicarious learning mechanism, this finding discovered the positive effects of challenging experience on an LD program from three aspects: How, What, and Why.

Motivation to learn is defined as a specific desire to learn (Noe, 1986). Noe and Schmitt (1986) argue that motivation to learn will predict learning results directly or through evoked desire to use training at work, termed the motivation to transfer. Although learning does not always work well, Burke and Hutchins (2007) argue that the gap between learning and sustained workplace performance is a 'transfer problem' that may explain some dissatisfaction with LD investment. The current study found that, underlying the vicarious

learning mechanism, guest leaders' challenging experiences may strongly motivate leaders to learn. In particular, guest leaders' leadership resilience, e.g., resilient attitudes (calm and adaptive), and resilient behaviour (persistent under pressure and learning from failures) demonstrated in their challenging experiences, will activate participants' desire to imitate, which is motivation to transfer learning.

From one perspective, the enhanced desire for transfer learning may solve the 'transfer problem' defined by Burke and Hutchins (2007) and lessen the gap between learning and application in workplaces (Gegenfurtner et al., 2009). Thus, motivation to learn and transfer evoked by others' challenging experiences and leadership resilience (resilient attitude and behaviour) is critical to improving training results within the LD industry. Previous research found that observing others use the skills was supportive of the effective transfer of learning into action (Gilpin-Jackson & Bushe, 2007). Thus, combining the vicarious learning mechanism with resilient attitudes and behaviour demonstrated in challenging experiences will boost strong motivation to learn and transfer that learning, which answers the 'How' of developing leaders' capacity to prepare for challenges.

Secondly, leaders' resilient attitudes and behaviour demonstrated in their challenging experiences are recognized as critical capabilities. Dealing with a challenge may lead to divergent consequences, such as being resilient through learning from others' experiences. Leadership resilience may manifest itself as adaptive perspectives toward challenges (Heifetz et al., 2009) (a resilient attitude) or learning coping skills from failure (resilient behaviour) (Seery et al., 2010). Since leadership competencies have varied distinctively in tandem with their development over time, problem-solving abilities, such as adapting to change, managing stress, persisting under pressure, and learning from failure, have been critical for contemporary leaders (Frei-Landau, 2020; Kragt & Day, 2020; Lin & Liao, 2020; Sanfuentes et al., 2021). Thus, resilient attitudes and behaviour revealed in the current study answer the

'What' question of the problem-solving capabilities with which leaders in dynamic and uncertain environments should be equipped.

The current study may also provide a deeper understanding of psychological resilience at workplaces. Studies have shown that resilience is essential for leaders to survive and thrive in challenging environments (Hormann, 2018; Karaırmak & Figley, 2017; Meneghel et al., 2016). However, most studies on resilience merely cited it as a general concept, i.e., the capability to bounce back from adversity, without explicitly articulating how it was manifested and could be developed. The current study found that psychological resilience may appear as resilient attitudes (e.g., adaptiveness) toward challenges and resilient behaviour (e.g., persistence under pressure). The two dimensions (attitude and behaviour) delineate resilience precisely and may help individuals identify, learn, and transfer learning to workplaces. By observing others' resilient attitudes and behaviour displayed in challenging situations, leaders could be strongly motivated to take on comparable attitudes and behaviour toward their challenges and become more confident to confront such challenges in consequence. This is supported by Quinn et al.'s (2020) recent study that foundindividuals' failure experiences had stronger learning motivation impact on others than successful experiences through mediating by interest and moderating by surprise. People may not be motivated to learn from 'super success' stories if they have no confidence to perform these successes themselves. However, individuals will be more confident in imitating resilient attitudes and behaviour (e.g., calmness and adaptiveness), highlighting the 'What' of critical abilities to confront challenges and the 'How' to develop such skills.

The third dimension of positive effects of vicarious learning from challenging experiences can answer 'Why' through the reported built-up leadership capabilities. This study found that leaders learned skills and knowledge, and enhanced leadership self-awareness and self-efficacy through observing others' resilient attitudes (adaptiveness,

calmness, and optimism) toward challenges. Self-efficacy has been considered essential to personal capability because it contributes to cognitive development and motivates one to perform (Bandura, 1993). A large body of evidence has shown that perceived self-efficacy enhances personal goals and motivation to achieve (Anderson et al., 2008; Bandura & Locke, 2003; Jaiswal & Dhar, 2015; Paglis, 2010; Ren & Chadee, 2017; Seibert et al., 2017). Luthans et al. (2007) reported that self-efficacy might positively impact work outcomes, especially when it accompanies the other three elements of psychological capital – optimism, hope, and psychological resilience. A meta-analysis that examined the average effectiveness of self-efficacy for low-, medium-, and high-complexity tasks reported that self-efficacy is a significant predictor of performance for each task-complexity level (Stajkovic & Luthans, 1998). Other empirical studies have also reported the benefits of self-efficacy on performance in diverse contexts, including the educational industry, parenting, sports, clinical therapy, and workplace leadership (Bouffard-Bouchard, 1990; Bruton et al., 2016; Cole & Hopkins, 1995; Krans et al., 2018; Mouton et al., 2015; Walumbwa et al., 2011a). These studies on self-efficacy have shown it is a valuable leadership capability. Thus, improved leaders' self-efficacy in the current study provides greater insights into vicarious learning in LD programs.

Furthermore, this study conducts the follow-up data transformation and quantitative analysis to add more statistical validity to the qualitative approach. For example, one finding of the qualitative phase is trainer leaders' leadership challenging experiences and resilient responses can improve other leaders' leadership capability. By transforming the qualitative results and the subsequent regression analysis, quantitative analysis shows a significant causal relationship between participant leaders and trainer leaders' leadership challenging experiences which can enhance the reliability of the qualitative results. Self-efficacy has also been recognized as vital in helping leaders and employees overcome challenges and achieve better outcomes (Vancouver et al.,2014; Vancouver & Kendal, 2006; Vancouver, 2002). A

large group of studies has noted the significant effects of self-efficacy in challenging workplaces, such as in improving individuals' effectiveness (Seibert et al., 2017), employees' work performance (Walumbwa et al., 2011b), creativity (Gong et al., 2009), work engagement (Salanova et al., 2011), and well-being (Djourova Nia et al., 2020; Liu et al., 2010). However, how to develop leaders' self-efficacy remains largely unclear in the literature (Avolio et al., 2009; Wernsing, 2010). The findings presented here contribute to self-efficacy development, showing that, through observing others' resilient attributes in attitude and behaviour demonstrated in challenging situations, leaders may enhance their self-efficacy directly or through improved skills. Furthermore, participants will be motivated to apply their learning on resilient attitude and behaviour in workplaces, which is critical to an effective LD program.

Besides revealing the positive effects of learning from challenging experiences, this study also revealed some demotivating factors within vicarious learning contexts that may negatively affect the participants' learning engagement. For example, if trainers did not frankly share their challenges or wore a 'professional shield' in the LD program, participants were demotivated to learn, and this, in turn, diminished the LD programs' effectiveness. A 'pretend' hero leader may also evoke suspicion and erosion of others' motivation to learn. This finding can be linked with the Trust and Vulnerability Theory originated by Mayer et al. (1995). Showing vulnerability refers to being open to uncertainty, risk, and emotional exposure, despite fears (Bruk et al., 2018). It is commonly regarded as a remarkable negative meaning, similar to being powerless, weak, deficient, and passive (Gilson, 2013). Positive perspectives around vulnerability may, however, make a difference in that both subordinates' vulnerability (Lapidot et al., 2007) and leaders' vulnerability (Cannon, 2020) can impact building up organizational trust relationships, especially in the charismatic leadership context (Ito & Bligh, 2016). However, very few extant studies have investigated Trust and

Vulnerability Theory in an LD program. The current study found that sharing personal struggles or weaknesses can motivate others. This finding may associate the theory of Trust and Vulnerability with the underlying mechanism of enhancing participants' motivation to learn, which practically contributes to LD organizers and trainers and lead them to avoid potential demotivating factors, such as 'always wearing a professional mask'. The current study found that leaders' resilient attitudes and behaviour demonstrated in challenging experiences can motivate others to develop their capabilities for dealing with challenges, particularly through awareness and self-efficacy. Moreover, the findings integrated the vicarious learning mechanism with the Trust and Vulnerability Theory (Mayer et al., 1995), which showed that observed resilient attitude and resilient behaviour through frankly sharing challenging experiences might provide insight into the underlying mechanism of learning motivation. This advances the theoretical understanding of vicarious learning theory within an LD context and reveals the underlying mechanism of learning motivation. This finding may address prevailing criticism of LD programs, which is that most LD programs are not satisfactory in developing leaders' problem-solving skills in complex work environments (Alvesson, 2019; Day & Dragoni, 2015).

Limitations and Future Directions

As an exploratory and inductive study, this study presents preliminary results and requires more empirical research to test the generalizability of the findings. One of the main limitations of this study is that the data were collected from a leadership program with a limited sample size (N=42) and from Australia. Future studies should investigate how vicarious learning impacts leadership development across various cultural contexts and sample sizes to explore whether study results are transferable to other countries and industrial groups. Moreover, future quantitative or mixed methods studies could explore the use of vicarious learning in leadership development. Even though this study found that resilient

attitudes and behaviour will enable leaders to deal with challenges, it did not explore how this is demonstrated in workplaces. Therefore, further research is needed to explore how leadership resilience takes place in action at workplaces.

4.2.7. Conclusion

The capability to deal with challenges is crucial to leaders and organizations. However, most LD programs are criticized for being ineffective in developing this essential capability. The purpose of this study was to reveal how guest leaders' leadership experiences can benefit others in developing the leaders' (participants') abilities to deal with challenges. This study found that shared leadership experiences, especially resilient attitudes and behaviour demonstrated in challenging experiences, may strongly motivate others to build-up their leadership capabilities and transfer these to workplaces, including coping skills and knowledge, self-awareness, and self-efficacy. Consequently, leaders will strengthen their abilities to deal with the challenges faced by individuals and organizations. Thus, the current study has demonstrated the positive effects of vicarious learning from challenging experiences in three dimensions – How, What, and Why – presented as a model of Building-up Leadership Capacity through Vicarious Learning.

Findings of the study reveal that, first, leaders can vicariously learn from others' experiences by observing others' resilient attitudes, resilient behaviour, and other skills deployed when confronted with challenges. It sheds fresh light on the importance of challenging experiences and draws attention to learning and transferring resilient attitudes and behaviour that are critical to dealing with challenges. The results show positive effects of vicarious learning in developing leaders' problem-solving skills, which has significant implications for preparing managers to confront even more uncertainty and challenges during complex and unpredictable changes in the workplace. By comparing their own with others' challenging situations and resilient responses toward challenges, participant leaders would be

aware of their ability and build their confidence in transferring learning (resilient attitude and behaviour) into actions.

To conclude, the current study provides insights into vicarious learning mechanisms within the LD area and has shown positive effects in developing problem-solving skills of middle- and high-level leaders. This has significant implications for leaders and organizations.

4.3. Study 3: Leadership Resilience in Action – Reflections from Australian Leaders

4.3.1. Abstract

Purpose – This study aims to reveal how psychological resilience is demonstrated in leaders effectively dealing with challenges, as contemporary leaders need to confront individuals' and organizational challenges.

Design/methodology/approach – This qualitative study adopts Glaserian grounded theory data-analysis techniques and follows a three-phase analysis process to investigate 42 leaders' open-ended reflections on guest speakers' shared leadership experiences in a 10-month leadership development program in Australia.

Findings –This study found that leadership resilience is displayed in a variety of ways, including resilient attitudes (e.g., perceiving the challenges as opportunities), resilient behaviour (e.g., being adaptive to the pressure), and coping skills (e.g., learning from failure) when leaders are dealing with challenges. In doing so, leaders can confront the adversity individuals and organizations face.

Research limitations/implications – As an exploratory qualitative approach, this study presents preliminary results and requires more empirical research to test the generalizability. Future studies are encouraged to investigate how leadership resilience is demonstrated across various cultural contexts.

Originality/value –The findings on resilient attitude extend extant leadership theories focused on leaders' skills and behaviour. Furthermore, findings pertaining to resilience's attitudinal dimension increase the knowledge about psychological resilience, which may

practically contribute to future leadership activities, such as leadership development and talent management.

Keywords: psychological resilience, leadership resilience, resilient attitude, leadership challenge

Article Type: Research paper

4.3.2. Introduction

Nowadays, organizations are faced with various challenges and potentially adverse situations, including digitalization, globalization, and increasing worldwide competition, that threatens the prosperity of the organization and the well-being of its members (Powley, 2009). This requires organizations to respond quickly to change, to be adaptive, and to learn from their experiences, which has become a truism since the 1980s (Hind et al., 1996). Consequently, leaders are required to play an essential role due to the increasing complexity and uncertainty of the globalized economic environment (Sturm et al., 2017). Leaders face ever-increasing pressure and high levels of stress (Roche et al., 2014), which affect leaders differently (Sturm et al., 2017). Some leaders become depressed and nervous, resulting in health problems, such as high blood pressure and heart disease (Roche et al., 2014). Other leaders, however, may discover opportunities in complex and dynamic environments; they believe that failure is the mother of success (Kaplan et al., 2014; Luthans, Youssef, et al., 2007).

What stimulates leaders to react to challenges differently and to experience varied subsequent outcomes? For example, while some may be depressed under huge work pressure, others may survive in adversity, build-up coping skills from challenging experiences, and be prepared for thriving in the future. Psychological resilience has been

shown to be a prominent leadership capacity to survive and thrive in times of adversity and to build-up a resilient organizational culture (Luthans et al., 2006). Researchers have found that psychological resilience can empower leaders to overcome obstacles faced by individuals and organizations in balancing their mental health (O'Connor & Batcheller, 2015). However, how psychological resilience is demonstrated in responding to challenges is largely under-investigated. Therefore, the study aims to explain how leaders demonstrate leadership resilience, including the awareness of challenges and responses to challenges in resilient ways.

4.3.3. Literature Review

Leadership in Challenges

Leadership is considered a way to improve individual, organizational, and social lives, which is a complex concept associated with different dimensions, such as traits, skills, behaviour, or process. Northouse (2015) described that "Leadership is a process whereby an individual influences a group of individuals to achieve a common goal". In this definition, the centre of leadership is the influence that associates with a spectrum of leadership attributes, such as the leadership trait (Zaccaro, 2007), leadership skills (Mumford et al., 2000), and leadership behaviour (Blake & Mouton, 1981), and those attributes may affect leadership effectiveness.

In the contemporary globalized competitive and dynamic work environment, organizations have become increasingly demanding and stressful places (Sturm et al., 2017). Leaders are required to play an essential role in dealing with this increasing complexity, and dealing with challenges has become an inevitable responsibility. A study has investigated what causes CEOs to fail and found that these top leaders' specific thinking or behaviour

pattern may damage their jobs and careers (Dotlich & Cairo, 2003) – that is, when facing challenges with rising work stress, these leaders will fail if they are not aware of the changes and do not adjust their fixed behaviour patterns to overcome the difficulties. Research also found that high levels of stress may counteract organizational performance and cause leaders' psychological problems, such as managerial burnout, anxiety, or depression (Roche et al., 2014), and work stress may aggravate physical health problems, such as heart disease (Crawford et al., 2010).

Dealing with various challenges has been an essential part of leaders' daily work. If leaders are not equipped with the ability to lead during challenges, they will lose or fail to take responsibility. Consequently, how to lead effectively in challenging situations has received more investigative attention. Adaptive leadership (Heifetz et al., 2009) and leading under pressure are approaches that reveal how to thrive under stress or survive a crisis from both theoretical and empirical perspectives.

Adaptive Leadership

Adaptive leadership is another leadership theory approach to investigating how to encourage people to be adaptive to face challenges (Heifetz et al., 2009). Under the Model of Adaptive Leadership, situational challenges are categorized into three types: technical challenges, technical-cum-adaptive challenges, and adaptive challenges. Technical challenges can be defined and have solutions, whereas technical and adaptive challenges can be defined but without straightforward solutions. In contrast, adaptive challenges can be neither clearly identified nor easily resolved.

Heifetz et al. (2009) reported that adaptive behaviours target three strategies: identifying the adaptive challenge, regulating distress, and maintaining disciplined work

attention. The first strategy is to be aware of the various challenges and prepare to deal with them. The second strategy is to regulate distress levels because overwhelming distress is incapacitating and counterproductive both for individual leaders and for organizations. The third strategy is to maintain disciplined work attention, which refers to working hard even when under pressure. Through these adaptive approaches, leaders can change both themselves and their followers' perceptions and behaviours toward challenges. These changes toward being adaptive will activate leaders' capability to confront the identified adaptive challenges and thrive. However, there is no clear articulation to explain how leaders can build-up their capabilities to identify and confront these challenges because the adaptive leadership model focuses more on leaders' behaviour and loses focus on developing these required skills.

Leading Under Pressure

The study of Leading Under Pressure is an approach to investigate how effective leadership in a crisis is distinct from leadership in ordinary times (James & Wooten, 2010). A crisis is defined as a significant case that may bring highly undesirable outcomes for organizations, society, or stakeholders, and critical leadership competencies enable leaders to overcome crises (James & Wooten, 2010).

According to Leading Under Pressure, crisis management may take place in five phases together with crisis development procedures: signal detection, preparation or prevention, containment (damage control), business recovery, and learning from the crisis experience (James & Wooten, 2010). Crisis leadership demonstrates a core set of competencies that allow leaders to determine the problems and execute an appropriate course of action. Three types of skills for leading under pressure are highlighted: sense-

making, perspective-taking, and influencing ability. Sense-making refers to the ability to understand complex circumstances and turn them into doable cases. Perspective-taking is the ability to recognize another individual or organization's perspective and the ability to consolidate leaders' and someone else's interests. The third type of competency is influence ability, which is the rationale for a plan by widely utilizing influence tactics (James & Wooten, 2010). To recapitulate the three types of critical leadership ability, the study of leading under pressure concentrated on leadership skills approaches.

Adaptive leadership and leading under pressure approaches showed that behavioural and skills approaches are essential to effectively lead during challenging circumstances in contemporary organizations. Furthermore, adaptive leadership suggested that promoting resilience can help organizations handle adversity (James & Wooten, 2010). Yet, none of the studies cited here reveal how leaders demonstrate their resilience when responding to challenges. Resilient responses may be beyond single behaviour or skills approaches. This study will investigate leadership resilience that is demonstrated when leaders effectively overcome challenges. It will investigate all leadership dimensions in challenges that may include leadership behaviour, skills, and other leadership approaches. In other words, this study will extend previous studies' research territory about leading during challenges and will not limit itself to any single leadership dimension such as leadership behaviours or skills.

4.3.4. Research Method

As mentioned above, the aim of the present study is to show how leaders respond to challenges effectively and how leadership resilience is manifested at the workplace. An in-depth understanding of this phenomenon necessitates a qualitative methodology and

requires an interpretive paradigm (Tracy, 2010). The current study employs an inductive analysis approach to reveal the theoretical pattern of leadership resilience instead of starting from a specific theoretical concept framework or following a single leadership approach (traits, skills, or behaviour). Therefore, the grounded-theory analysis approach is appropriate because it makes it possible to allow all concepts that emerge from the data analyzed.

Grounded theory (GT), first used in 1967 by Glaser and Strauss (Glaser & Strauss, 1967), is advanced to develop theories rooted in a relevant empirical data set. Grounded-theory studies seek to develop theoretical constructs by categorizing concepts into an integrative story by way of a systematic process, such as open-coding, constant comparison, and theoretical sampling. GT's characteristics can ensure a qualitative study's reliability and transferability through twice-coding and iterative analysis (Auerbach & Silverstein, 2003). A data analysis software package (QDAS), such as QDAS-NVivo, can effectively facilitate qualitative study through functional tools for managing the data, the coding process, and visualizing results (Bringer et al., 2004; Feng & Behar-Horenstein, 2019). Therefore, this study will employ an inductive methodology by following the GT data collection and data analysis approaches facilitated by QDAS-NVivo 12.

Leadership Development Program Data Set

The data utilized in this project are selected from a leadership development program data set. This program was held in Australia in 2013 and lasted ten months from 14 February to 13 November. Forty-two leaders participated in the program, which involved various activities, including nine in-class seminars delivered by guest speakers, seven leadership panels, four site visits, and executive coaching and mentoring sessions. After each session, participants were asked to send anonymous reflective reports by email in

answer to open-ended questions. When all activities of the leadership development program were finished, participants gave feedback on the program. By answering open-ended questions, leaders presented in their own words their experiences and explained how their leadership developed.

All guest speakers were highly experienced leaders in Australia and came from government service, commercial, or non-profit organizations. The participants were senior or middle-level leaders selected from various Australian organizations. In total, this program collected 1,388 anonymous reflections throughout the ten-month program and resulted in a rich information dataset concerning leadership in challenges and disasters. This is why this data set can support the present study, which seeks to reveal how to lead effectively in challenges and crises.

Data and Research Questions

In a research project, data collection should methodologically align with research questions and data analysis procedures (Yin, 2016). The data selection and data analysis procedure refer to the author-designed Evolved Grounded Theory Research Framework presented in Study 4. The data utilized in the current study are selected from a huge data set of the LD program that comprises 882 participants' reflections on 12 leaders who demonstrated diverse, challenging experiences in their leadership journals. The data offer lived experience phenomena related to leadership practices. In particular, the data present rich leadership experiences of leading effectively in challenging situations.

As is clear in extant studies, adaptive leadership (Heifetz et al., 2009) and leading under pressure (James & Wooten, 2010) emphasize awareness of challenge or crisis, that is, recognizing adversity and its status. It is then possible to be prepared to face such challenges

with appropriate traits and behaviour since these are associated with effective leadership. Therefore, to achieve the research aims and acquire an in-depth understanding of leadership resilience in times of action, this data analysis will focus on two research questions.

- What kind of challenges are leaders confronting in the contemporary workplace?
- How do leaders respond to challenges effectively and demonstrate leadership resilience?

Data Analysis Strategy

In a qualitative study, coding is a fundamental step in the analysis process. It enables the breaking down of the data into meaningful parts (Creswell, 2016). The current study is conducted by following an evolved grounded theory research framework. This framework aims to break down the complex GT research process into small pieces and the explicit procedure it explains will assist new researchers in doing future GT-based studies.

The author-designed data-analysis framework, named the Three-phase Data-analysis Framework, employs GM key principles and combines these with author-evolved methods, including the two-step literature review, two-step opening coding, and a two-step theory-constituting process. Specifically, the three evolvement steps seek to divide the research project into three stages. The breaking-down process can lower the research ability threshold, and the evolved process is achievable for new GT researchers (shown in Figure 2 in Chapter 3).

This three-phase data-analysis framework takes place sequentially in this study (shown in Figure 12). The findings from each completed step act as the input for the next step. The first phase includes two steps, and it starts from a broad pre-literature review and then zooms the wide-ranging research interests into research aims. This phase will consider

and combine multiple aspects, such as the innovative value, practical value of the research problem, and previous empirical evidence.

The second phase is the essential part of the GT research procedure that includes data collection, the two-step open-coding process, theoretical sampling, and the two-step theory constituting process. Theoretical sampling refers to the classical GT strategy and gathers additional data to further study the identified categories from the previous steps until themes emerge from the data. The two-step open-coding process and the two-step theory constituting process are author-designed evolvements to assist new researchers in conducting GT-based analysis.

The third phase comprises post-literature review and theory elaboration, which intends to interpret and elaborate the emergent substantive theories with extant formal theories and empirical studies. In GT studies, the definition of the concept (theme) refers to sensitizing concepts. Compared to definitive concepts illustrated with clear attributes or fixed benchmarks, a sensitizing concept lacks precise attributes or measuring criteria (Blumer, 1954). The sensitizing concepts emerge from the data analysis, and it can give researchers a general sense and guide in approaching substantive theories that constitute sensitizing concepts in a theoretical pattern. Subsequently, the post-literature review is to build theoretical relationships between emergent substantive theories, and extant formal theory is substantive theory.

4.3.5. Results

Guided by the three-phase data-analysis framework, the study presents results in the sequence (shown in Figure 9).

Figure 9. Three-phase Leadership Resilience Data Analysis Process
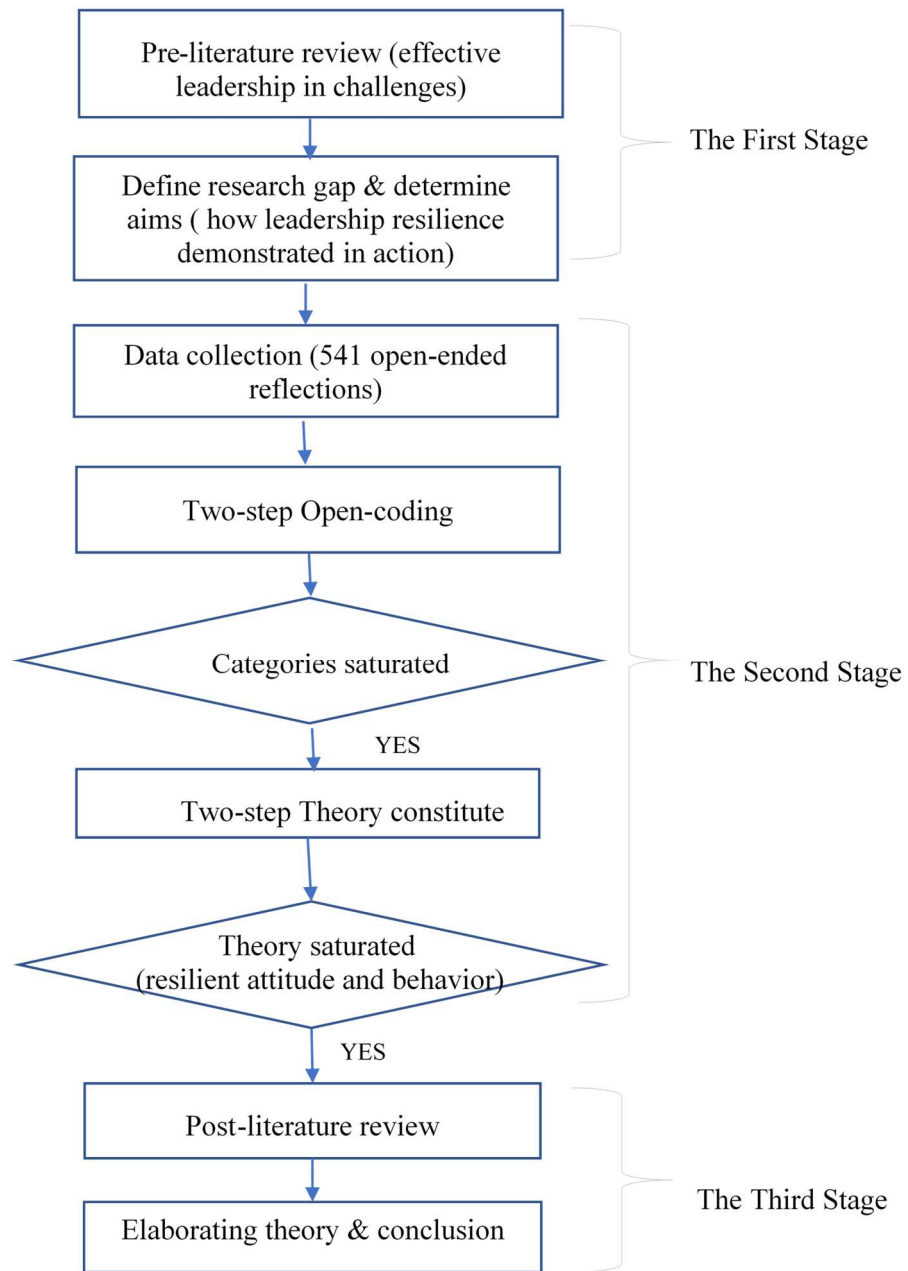
From the first stage of a pre-literature review and the findings of Study 2, psychological resilience has been shown to enhance leaders' ability to survive and thrive in adversity. Consequently, to further understand how psychological resilience shows this

valuable characteristic, the first stage leads to determining the research focus on revealing how leadership resilience manifests in action.

At the second stage, the data collection is selecting data from the LD program data set and results in 882 reflections on 12 guest leaders. All the guest leaders shared the challenging experiences that confronted themselves and their organizations. Through the two-step open-coding process, the initial coding step yields two master lists according to the two research questions, respectively. By secondary coding, similar phrases and sentences, or those with similar meanings, are organized into concepts. As a result, four themes emerge: Awareness of challenges (79), Resilient attitudes (36), Coping skills (13), and Resilient behaviour (62). Through secondary coding the third master list, the theme of Influencing Power of Leadership Resilience emerges. Then, by applying the two-step theory-constitute process, the theoretical codes build the relationships between the four emergent themes. Finally, the study presents the theoretical construct (substantive theory), named Leadership Resilience in Action.

The third stage conducts the post-literature review and builds the relationship between the emergent substantive theory and formal theories, including the Reasoned Action and Planned Behaviour theory, that articulate that attitudes can influence behavioural intention and subsequently predict behaviour (Fishbein & Ajzen, 2010). Supported by extant formal theory, the current study elaborates the findings and concludes that leadership resilience can be demonstrated as resilient attitudes, resilient behaviour, and coping skills when dealing with challenges.

Awareness of Challenges

As an analysis result of the first research question, six types of challenges are identified from the 79 repeating ideas: change, unexpected issues, complexity, mistakes and failure, work pressure, and adversity and crisis (see Table 8).

Table 8. Awareness of Various Challenges

Type	Example
Change	(1) More importantly, he gave us a great understanding of how to go about taking on a new role and embedding the change you're looking for. (2) It was interesting to hear about the changing direction of the mining industry, and it made me think about how this impacts my department. (Reflection on Speaker 13)
Unexpected issues	(1) I feel the stories that were told highlighted that it is not the planning that makes the leader but how you react to the unknown. (Reflection on Speaker 15) (2) His comments about a career being less planned were very interesting (Reflection on Speaker 5)
Complexity	I also learned that the key to managing the differences that comes with the complexity of international and cultural differences is through having effective relationships (Reflection on Speaker 11). It is a complex issue, and I enjoyed hearing your perspectives on it (Reflection on Speaker 17).
Work pressure	I really enjoyed the way you articulated how you managed your entry to the department, which was under real pressure; you were able to identify and also develop strategic planning to ensure it had a positive and secure future. (Reflection on Speaker 14)
Mistakes or failure	This has manifested itself in many adverse ways and resulted in Aboriginal and Torres Strait Islanders being labeled in all the wrong ways. (Reflection on Speaker 9)
Disaster or crisis	Her life has been struck with tragedy, which still plays a big part in her life and will be there for the rest of her life. (Reflection on Speaker 2)

The challenges' names either directly refer to the description of participants, such as Business changes and Mistakes, or are given a name by authors through organizing similar meanings or similar severe levels, such as Disaster and Crisis. A Business challenges example is quoted thus:

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It is a wonderful opportunity to hear from such a significant leader, and I now

understand you to be down-to-earth and approachable as a person, with many of the

same fundamental leadership challenges I have. (Participant 2 reflects on Speaker

4).

Another quotation to elaborate on complexity is:

I also learned that the key to managing the differences that comes with the

complexity of international and cultural differences is through having effective

relationships. (Participant 5 reflects on Speaker 11)

The emergent theme of Awareness of challenges is aligned with the extant studies on how to effectively lead in challenging environments. Both adaptive leadership and leading under pressure have investigated the awareness of challenges or crises, which includes recognizing the phenomena related to challenges. This recognition can help leaders to prepare their mindset, attitudes, and behaviour when facing challenges in the real world.

Resilient Attitudes

In the current LD program context, resilient attitudes are leaders' perspectives when they can and must effectively respond to challenges, such as being calm or adaptive to adverse events (Dimas et al., 2018; Kasprzak, 2021). The study finds that resilient attitudes are crucial in helping leaders "bounce back" from adversity which is displayed in three types: calmness, adaptiveness, and optimism (see Table 9). The attitude of calmness is described by philosopher Friedrich Kambartel (2017) as consisting of emotional statues with the unwavering meaning of a rational life while confronting events beyond control.

Table 9. Three Types of Resilient Attitudes

Type	Example
Calmness	I liked it so much was his absolute calmness and easy demeanor, despite the incredible pressure he must feel daily in his role. (Reflection on Speaker 4)
Adaptiveness	I also liked the changes you need to make to adapt to different cultures. You can change some things but accept things are different. It is important to absorb yourself into the local community and understand the culture quickly. (Reflection on Speaker 15)
Optimism	I learned to look at challenges as opportunities and the importance of engagement and participation of the team. (Reflect on Speaker 13)

According to Kambartel (2017), calmness is admitting the reality that some things are beyond our control, and these beyond-control issues will not diminish long-term confidence. An example is:

I was touched by the guest leader's quiet calmness, and even though she was obviously feeling vulnerable, her strength was palpable. (Participant 14 reflects on Speaker 6)

The second type of resilient attitude is adaptativeness, which is explained as the process of change by which an organism or species becomes better suited to its environment. The current study refers to the participants' explanation of who was involved in the LD program: adaptiveness is the ability to be aware of the challenges and adjust yourself toward absorbing the identified challenges *(Participant 1 reflects on Speaker 15)*. Adaptive ability can help leaders to overcome challenges by changing leaders' attitudes and behaviour:

I also liked the changes you need to make to adapt to different cultures. You can change some things but accept things are different. It is important to absorb yourself

in the local community and understand the culture quickly. (Participant 1 reflects on

Speaker 15)

The third type of resilient attitude is optimism. From the psychological capital (PsyCap) perspective, optimism is interpreted as a positive state that makes a positive attribution about succeeding tasks (Luthans, Youssef, et al., 2007). PsyCap theory, developed by Luthans et al. (2007), is a branch of positive psychology that focuses on an individual's positive psychological development with optimism and three other characteristics (confidence, hope, and resiliency). PsyCap optimism is explained thus:

PsyCap optimism is not just about predicting that good things will happen in the future. More importantly, PsyCap Optimism depends on the reasons and attributions one uses to explain why certain events occur, whether positive or negative, past, present, or future. For instance, you may spend a lot of time and energy focusing on positive events, but if you do not interpret them using an optimistic explanatory style, you may still be on the pessimistic side. (Luthans, Youssef, et al., 2007, p. 87)

Under this definition, an optimist may interpret challenges in a realistic and flexible manner, beyond focusing on positive events. One example quoted is about how leaders demonstrate a resilient attitude when maintaining an optimistic view in a difficult work environment:

I was inspired by his ability [Guest Speaker 7] to remain positive despite the difficult context of his role, as there is always a risk of allowing external influences to become overwhelming and losing sight of what you are trying to achieve. (Participant 20 reflects on Speaker 7)

Coping Skills

Besides general leadership skills, this study found that resilient skills are necessary to confront challenges or crises. Referring to participants' explanations, four types of coping skills are awareness of challenges, flexibility, dealing with pressure, planning, and organizing resources (see Table 10). A quotation example is *This leader must have an enormous capacity to deal with this pressure and still function effectively (Participant 3 reflects on Speaker 14).*

Table 10. Four Types of Coping Skills: Summary Quotations

Type	Example
Awareness	When you are leading a new area, you need to quickly identify what the people's challenges are, including identifying the organizations' and individual peoples' strengths and weaknesses. (Reflection on Speaker 13)
Flexibility	(1) We need to be flexible, and we must be able to justify everything that we do (Reflection on Speaker 6). (2) I need to consider the team dynamic as well as individual skills and experience (Reflection on Speaker 6).
Dealing with pressure	The leader must have an enormous capacity to deal with this pressure and still function effectively as a leader (Reflection on Speaker 14).
Planning & Resourcing	(1) Seeking the knowledge and expertise and bringing it in, and being adaptable (Reflection on Speaker 17). (2) Good planning is about establishing a resilient framework that can accommodate change – rather than "finished compositions" (Reflection on Speaker 4).

Awareness in this LD study is leaders' ability to recognize challenges facing individuals and organizations that may lead to resilient attitudes and behaviours. An example quotation explained how awareness of challenges is important to effectively deal with challenges:

I think it is important to recognize where they exist, identify the challenges associated with them, and have an action plan to break down the barriers. (Participant 30 reflects on Speaker 13)

The second identified resilience skill is flexibility. Leaders' behavioural flexibility is the various extent to which behaviour is appropriate to different tasks and situations (Yukl & Mahsud, 2010). This study refers to the concept of leadership flexibility, which shows leaders' diversity in their activities, such as adopting multiple complementary roles in response to various contextual demands (Baron et al., 2018). There follows an observation on how flexible skills may display in coping with adversity:

You need to add adaptability as things change over the years, and that flexibility builds in the capacity to change the needs required and also what needs you need to address: things don't stay the same. (Participant 5 reflects on Speaker 7)

The third type of coping skill is dealing with pressure. Leaders need to be equipped with the capability and skills to keep going under pressure:

The leader must have an enormous capacity to deal with this pressure and still function effectively as a leader. (Participant 15 reflects on Speaker 14)

Finally, the fourth type of coping skill is planning and resourcing. This highlights that leaders' ability to plan to overcome challenges and seek resources to implement that planning is essential:

Good planning is about establishing a resilient framework that can accommodate change – rather than "finished compositions". (Participant 25 reflects on Speaker 4).

Resilient Behaviour

Leadership behaviour plays an important role in leadership theory studies. In the current study, resilient behaviour involves three types of emergent behaviour that leaders displayed when they responded to diverse challenges: being straightforward, learning from mistakes, and persisting with goals (see Table 11). Resilient behaviours are powerful for leaders and organizations in identifying and overcoming challenges.

Table 11. Three Types of Resilient Behaviours

Types of resilient behaviour	Example
Straightforward	I learned about how a Board can guide a manager to assess their strengths and put in place actions to address their weaknesses. (Reflection on Speaker 17)
Learning from mistakes	Everyone makes mistakes, and the way we deal with them can be more defining than the mistake itself. Also, the notion of seeing opportunity out of change was good reinforcement. (Reflection on Speaker 5)
Persisting on goal	To be an effective leader, the common thread is persistence and really enjoying the challenge of working with people from all walks of life. (Reflection on Speaker 14)

Being straightforward, the first type of resilient behaviour, shows that leaders identify and face challenges quickly, work out an action plan, and implement it promptly. One example description of this resilient behaviour is as follows:

I took from the Professor [that he/she] included the importance of identifying leadership challenges as quickly as possible and then systematically worked out the strategy to respond to them. (Participant 25 reflecting on Speaker 9)

Learning from mistakes to gain experience and coping skills is critical for contemporary leaders and organizations because mistakes are an inevitable challenge. Therefore, the second type of resilient behaviour is learning from mistakes. The quotation is a good example:

I know I make mistakes often, and this encouraged me to continue to be transparent about errors made, and learning from them is so important. Great lesson well shared. His further comments about two types of mistakes, being [that] doing something and it doesn't work, or not doing something when you should be, also showed that he has learned from mistakes, but had not let them cripple his decision making. (Participant 26 reflects on Speaker 5)

Persisting with a goal is the third emergent resilient behaviour. Sometimes work targets are difficult to achieve, which requires leaders to constantly dedicate effort towards achieving a tough goal in a long period. Another example is that leaders may face huge stress and will persist with a goal under great pressure:

The difficulties and frustrations associated with continual external comment and criticism: confident and resilient leadership is required to manage and respond to this feedback and questioning, but this can be overwhelming and soul-destroying at times. (Participant 6 reflects on Speaker 10)

Leadership Resilience in Action

The four emergent themes (awareness of challenges, resilient attitudes, resilient skills, and resilient behaviour) express how leadership resilience manifests itself in actions and demonstrate how leaders can deal with challenges effectively. Normally, the four dimensions can be observed together rather than being displayed separately at the workplace

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and named theoretical codes. An example of leadership resilience that displays awareness of challenges (tragedy—disaster) and resilient behaviour (keep going—persist with the goal) is this:

> *What resonated the most with me was the absolute power of resilience. She was a very strong woman who has dealt with such an incredible amount of pain and tragedy. But the strength of resilience within her enables her to keep on going and get up and not only cope but also help others and do something that gives her life meaning and value. (Participant 4 reflects on Leader 2).*

This quote shows that, even though the leader faced a crisis, she could still demonstrate leadership resilience in action by recognizing the crisis and keep moving forward. That leader can be recognized as a resilient leader through her resilient behaviour. Another example involves awareness of challenges (challenge and risks), coping skills (planning), and resilient behaviour (keep moving forward):
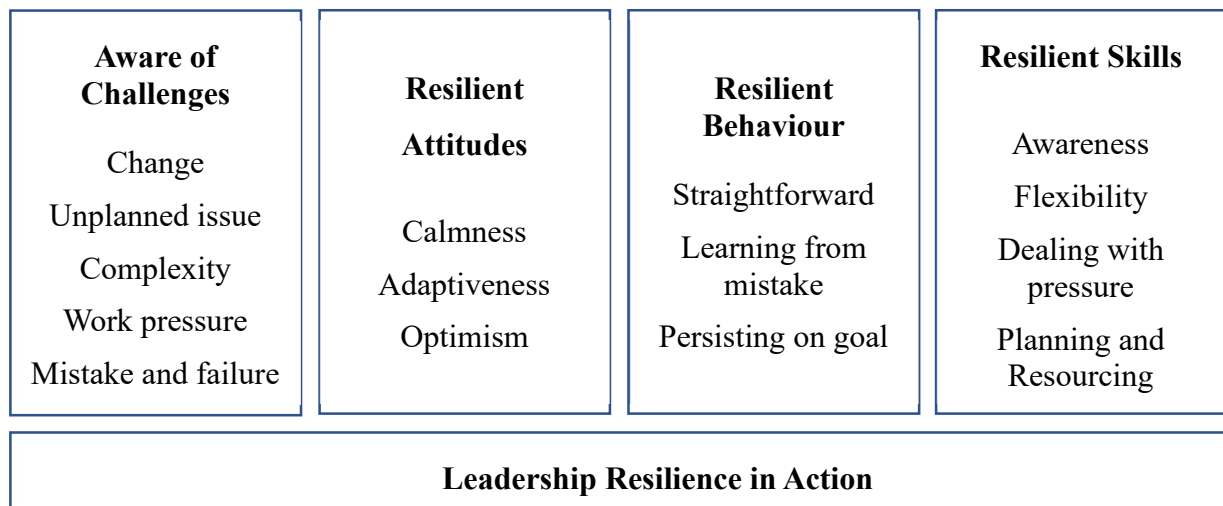
> *As a leader, it is easy to get stuck in day-to-day detail, and a real challenge for me is to look ahead, take risks, and keep moving forward in my work, and encourage others to do the same. (Participant 6 reflects on Speaker 5)*

The third example highlights how leadership resilience takes place in action through resilient behaviour (planning) and skills (awareness of challenges):

> *I enjoyed hearing his approach to leadership challenges; I thought his pragmatic and systematic style of dealing with his new role was very clever, and it really helped him approach the challenges. (Participant 6 reflects on Speaker 13)*

These theoretical themes build-up the relationship of the four emergent themes and consequently constitute the theoretical pattern of the Model of Leadership Resilience in Action (see Figure 10).

Figure 10. Leadership Resilience Model—Leadership Resilience in Action

Aware of Challenges	**Resilient Attitudes**	**Resilient Behaviour**	**Resilient Skills**
Change Unplanned issue Complexity Work pressure Mistake and failure	Calmness Adaptiveness Optimism	Straightforward Learning from mistake Persisting on goal	Awareness Flexibility Dealing with pressure Planning and Resourcing

Leadership Resilience in Action

4.3.6. Discussion

Psychological resilience has been studied in various leadership contexts, and the evidence has proven its crucial value to effective leadership. To date, extant studies have found how resilience can positively impact leadership outcomes strongly in specific instances, such as enhancing individual and organizational leadership capability (Harland et al., 2004; Kodama & Dugan, 2019), improving work performance (Gupta & Sharma, 2018; Su & Linderman, 2016), increasing work engagement (Bande et al., 2015) and subjective well-being (Meng et al., 2019; Shelton et al., 2019). However, there is no consensus around the conceptual clarification of resilience in the leadership domain, even though there are considerable numbers of studies in the area. Therefore, this current study uses leadership resilience as an umbrella name, that is, when psychological resilience interacts with leadership in overcoming adversity. Specifically, here the study discusses how resilient

attitudes, resilient skills, and resilient behaviour are shown in action, as emerges from the LD program.

Leadership Behaviour in Challenges

Leadership behaviour plays the most important role in the leadership process. Most of the extant behavioural leadership approaches focused on two dimensions: task behaviours and relationship behaviour (Blake & Mouton, 1981; Camps & Torres, 2011; Kaluza et al., 2019). Great numbers of studies have revealed how leaders' behaviour significantly impacts individual and organizational outcomes, such as ethical leadership behaviour (Kalshoven et al., 2010), unethical behaviour (Harrison et al., 2016), authentical leadership behaviour (Hsiung, 2011), transformational leadership behaviour (Effelsberg et al., 2013; Koveshnikov & Ehrnrooth, 2018), servant leadership behaviour (Newman et al., 2015), and citizenship behaviour (Boiral et al., 2016).

But as a counter to such studies that are based on formal leadership styles, the current research reveals how guest leaders (in this LD program) behave without that behaviour being based on any specific leadership style. Leaders (guest leaders) demonstrated their resilient behaviour when overcoming adversity, such as personal disasters, new and challenging work targets, or other types of adversity. Most importantly, participants (leaders in the program) appreciated the various resilient behaviours (being straightforward, learning from mistakes, and persisting with goals), and they were inspired to imitate them.

The findings on resilient behaviour in the current study add new knowledge to the leadership behaviour literature, especially through insight into how to behave when facing diversified challenges. Such resilient behaviour will help leaders confront challenges beyond the identified, limited challenges in the LD program context. Individuals and

organizations may encounter unplanned issues, even a threatening competitive market environment, or have to engage in unfavorable changes. In these explicit or implicit challenging situations, leaders can demonstrate resilient behaviour directly: they can identify and admit the challenge, prepare a work plan to resolve it, and devote efforts continually to achieve their goal even under excessive pressure. The study also extends the scope of leadership behavioural approaches to a broader perspective by paying attention to external challenges and for leaders learning from their own and others' mistakes. The positive view of learning from mistakes will subsequently enhance the leadership skills required to cope with challenges.

Attitude and Leadership in Challenges

Psychological attitude, defined as an overall evaluation of an object, has been studied extensively as a social psychological construct and presented with various theories and models, including the multi-component model (CAB), the Theory of Reasoned Action, and the Theory of Planned Behaviour (Maio & Haddock, 2015). The CAB model argues that attitudes are constituted by three dimensions of evaluations of an object: cognition, affect, and past behavioural experiences (Eagly & Chaiken, 2007). The Theory of Reasoned Action explains that attitudes associated with a subjective norm (perceived social pressure) can influence behavioural intention (determinant) and consequently predict behaviour (Fishbein & Ajzen, 2010). The Theory of Planned Behaviour also supports that attitude can significantly influence behaviour through a revised model by adopting a new element of perceived behavioural control (self-volition) (Ajzen, 1991).

Given the significant impact of attitudes on behaviour, scholars have investigated attitudes in the leadership domain and termed this leadership perception. However, many

leadership studies only focus on the behavioural component of the tripartite view of attitudes (cognition, affect, and behaviour) and identify different leadership styles accordingly (Lee et al., 2015). In other words, previous leadership studies on attitude normally target people as attitude objects, or as a general work concept, rather than investigating attitudes toward specific "things," such as inevitable challenges (Carmeli, 2003; Moshavi et al., 2003; Savery, 1994).

As attitude objects can be anything, the different types of challenges can be recognized as objects of attitudes. Therefore, we name 'attitudes' as resilience attitudes that help leaders effectively confront challenges. This study found that resilience attitudes can manifest diversely as calmness, adaptiveness, and optimism. A leader's absolute calmness under incredible pressure can be recognized as a prominent leadership capability. Through responding calmly to extreme challenges, leaders will intend to maintain their emotions without losing control and can predict a resilient behaviour to perform, such as straightforward search, establishing a Plan B, and learning from this failure. An effective leader will maintain calmness under pressure or disaster instead of being frustrated. Previous studies have reported that being calm can help political leaders in facing a crisis (Lubchenco, 2010). They have also noted the value of calmness for clinical leaders and patients in healthcare industries (Ennis et al., 2015). Furthermore, some studies have found that leaders keeping calm can also positively impact employees' attitudes and work behaviour (DeGrassi, 2017), although there is a lack of empirical study to investigate how calmness is demonstrated as a component of leadership resilience.

Adaptiveness, the second resilient attitude, calls for leaders to be flexible and adaptive to challenges. The definition of adaptive challenges in previous studies is when they can

neither be clearly identified nor resolved easily (Heifetz et al., 2009). A simplified explanation is that if you cannot identify or solve the problem, then accept it. We can find similarities between adaptive leadership and our findings, even though the former focuses on leaders' behaviour, whereas our study considers adaptiveness as a resilience attitude. Both the adaptive resilience attitude (in the current study) and adaptive leadership behaviour (previous research) highlight that being adaptive may support leading during challenges.

The third resilience attitude is optimism, which may lead to interpreting challenges with a positive lens. Optimism is an individual difference that refers to the expectation of positive outcomes for an event or the future (Carver et al., 2010). Optimists tend to perceive bad events as less permanent, less personally related, and less prevalent than pessimists (Scott, 1999). Individuals with high optimism tend to build positive expectations which motivate them to persist with their goals in difficult situations (Seligman, 2006). Optimism is also investigated in the leadership discipline and has been found to be associated with diverse leadership styles, including Transformational leadership (Garbowski, 2010; Le et al., 2018), Servant leadership (Kool & van Dierendonck, 2012), and Empowering leadership (Nguyen et al., 2016; Thun & Bakker, 2018). Optimism has been found to produce significant effects on workforce productivity in the healthcare industry (Scheier & Carver, 1985, 1992), team effectiveness (De Hoogh & Den Hartog, 2008), and building up employee resilience (Nguyen et al., 2016). Our findings share the same perspective about optimism and highlight that it is even more critical to leaders in difficult times to help them against frustration.

Leadership Skills in Challenges

Leadership skills are essential to lead effectively, which has been studied with broad approaches. In leadership theories research, skills-based approaches have evolved in the past decades. Katz (1955) presented the three-skill approach of technical skill, human skill, and conceptual skill. Compared with technical skills in dealing with things and human skills with people, conceptual skill is the ability to work with ideas and concepts. Those leaders with conceptual skills advance in creating a vision and devising strategies. The skills-based approaches have impacted other scholars and have been later developed into the Three Components of the Skill Model, shifting the leader-central focus to a broader perspective by adding the two aspects of career experiences and environmental influences (Mumford et al., 2000). The five leadership components can directly impact leadership effectiveness, especially leader competence centred on problem-solving and social judgment skills (Northouse, 2015).

This study's findings on coping skills demonstrated in challenging situations, e.g., dealing with pressure, planning and resourcing, extend extant skills-based leadership theories. By integrating these problem-solving skills, this study provides an in-depth understanding of leadership skills of which leaders should accumulate in order to confront adversity. This study found that resilience skills that include awareness, flexibility, dealing with pressure, planning & resourcing may support leaders to survive or thrive in the face of challenges.

The first identified resilience skill is awareness. Previous leadership studies have considered awareness as the leadership capacity for recognizing one's leadership strengths and weaknesses, but this definition focuses on awareness of leaders themselves and is

termed leadership self-awareness (Avolio, 2005). Self-awareness has been posited as a foundation for leadership capacity (Bratton et al., 2011; Romanowska et al., 2014), and studies have established its effectiveness in various leadership contexts, such as transformational leadership (Tekleab et al., 2008) and authentic leadership (Gardner et al., 2005). This study, by contrast, broadens the theory of self-awareness, which shifts the emphasis from self-awareness to a broader view of being aware of challenges and identifying organizational and individuals' strengths and weaknesses.

The second resilience skill is the flexibility that this study found, and it is articulated as leaders being capable of making plan B or plan C if plan A does not work. Zaccaro et al. (1991) tested leaders' flexibility in responding to varied situations and multiple tasks. Later studies explained the dimensions of leadership flexibility as the required diversity of activities, multiple complementary roles, and responding to various contextual demands. For example, leaders will be able to pursue productivity while also caring about team-building and employee well-being. Leadership capability has inherent flexible characteristics (Sumner-Armstrong et al., 2008). Leadership flexibility has also been investigated from an integrative perspective and has demonstrated capability in dealing with shifting priorities. It is also defined as a meta-competency, with multiple subsuming components but remaining open to learning (Kaiser & Overfield, 2010; Norton, 2010).

Leadership flexibility, as mentioned above, can benefit organizational performance through flexible behaviour, flexible skills, or integration of both of them (Baron et al., 2018). This can support the current study and emphasize that effective leaders should be equipped with flexible skills to face adversity or failure, resolve obstacles, and even more diverse challenging scenarios. Besides awareness and flexibility, this study found that

dealing with pressure, planning, and resourcing are also operational resilient skills because facing challenges normally imposes pressure on individual leaders and organizations. When facing adversity, leaders need to maintain a cool head under pressure, have the ability to plan and implement a plan and be able to organize resources to resolve challenges, such as mastering technical experts, materials, or equipment. All these four resilience skills, working together or separately, will help leaders evaluate complicated situations and manipulate multiple resources under stressful work environments.

In summary, this study reveals that resilient attitudes, consisting of calmness, adaptiveness, and optimism, are essential to leaders in battling unexpected challenges. Our study found that it is resilient attitudes that influence different leaders' perspectives on adversity and consequently produce various behaviours. The findings extend the attitude-behaviour theories in which attitudes are "guiding" or "influencing" later behaviour into the leadership area (Ajzen, 1991; Fazio et al., 1983; Fishbein & Ajzen, 2010). The findings can incorporate social learning theory into leadership research. According to social learning theory, people can learn from both vicarious behaviours and consequent attitudes responding to activities (Maio & Haddock, 2015). Moreover, from a long-term viewpoint, resilient attitudes can evoke leaders' acquisition of skills from challenging experiences, either from themselves or from others.

As both the directly influencing power and the predicting function of resilient attitudes can help leaders overcome difficulties, this study suggests that resilient attitudes are essential characteristics of leadership capabilities in influencing others to achieve a common goal. To be effective leaders, they should be prepared for challenges and be calmful when facing them. If leaders cannot successfully deal with a challenge, they might learn from the

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challenging experiences or failures. As most of the extant studies of leadership skills focused on leadership traits, skills, or behaviours, the current study broadens the knowledge by focusing on the attitude dimension, which can positively impact work outcomes, such as employee performance and psychological well-being (Avey et al., 2011; DeGrassi, 2017).

By integrating all the findings, this study discovers that leadership resilience can be demonstrated diversely through awareness of challenges, resilient attitudes, resilient skills, and resilient behaviour. Leaders can display or manipulate them all or just one aspect in different situations.

Limitations

This study is a starting point for investigating resilience attitudes. The limitation is obvious from the limited sample size (42 participants to 12 leaders) and cultural background (Australia). Future studies can investigate this topic by using larger sample size from various cultural communities to confirm the validity of the findings. Future quantitative studies may test the association between leadership attitudes and leadership effectiveness, such as performance, job engagement, and well-being.

This study generally investigates leadership resilience. Future studies may investigate whether resilience diversifies in accordance with gender differences and in differing organizations. For example, whether female leaders' resilience is higher than male leaders'. Or whether leaders within developing countries demonstrate higher resilience compared with those in other areas?

Another limitation is that this study focuses on individual leaders' leadership resilience rather than revealing how it works in a team. This research did not find evidence to explain how leadership resilience empowers other employees or teams. As leadership

takes place in a group of individuals, future studies could investigate how leadership

resilience works with others.

4.3.7. Conclusion

Challenges in leaders' daily work are various and inevitable; therefore, resilience is a

vital quality an effective leader needs to develop. This study found that leadership resilience

can be demonstrated in various ways when dealing with challenges, such as perceiving the

challenges as opportunities or being adaptive to the pressure of the situation. In doing so,

leaders can confront the adversity faced by individuals and organizations. At the same time,

leaders can develop individual leadership skills and resilience by learning from a

challenging experience, either personally or vicariously. Consequently, they will then

become ready for more challenging tasks or situations.

For example, the COVID-19 pandemic has caused severe problems worldwide. Some

recent studies have reported that the pandemic represents a massive global health crisis (Van

Bavel et al., 2020). It also threatens corporate, national, and even international businesses

through unanticipated direct costs (John Ataguba et al., 2020) and long-term risks. Also,

extensive adversity exacerbates anxiety and other mental health issues (Kickbusch et al.,

2020).

By following the grounded-theory-based Leadership Resilience Analysis Framework,

this study found that leadership resilience can be demonstrated in four dimensions:

awareness of challenges, resilience attitudes, resilience skills, and resilience behaviour. This

study innovatively investigates leadership resilience and how psychological resilience takes

place from a holistic perspective rather than focusing on the specific behavioural or skill

dimensions as in previous studies. The findings have extended the boundary of leadership

research theories with the inclusion of leadership attitudes, and especially how these work in leading effectively during challenges. This study emphasizes that leaders' resilient attitudes, such as calmness, adaptiveness, and optimism, can help them overcome adversity and display leadership resilience. These findings increase the literature knowledge about leadership resilience and encourage future studies to investigate how resilient attitudes influence resilient behaviour and individual and organizational performance.

Chapter 5: Discussion and Contribution

Today's leaders face diverse challenges inherent in the complex social and business environments, such as multiple-role responsibilities, uncertainty, and competitive work environments (Smith & Lewis, 2011). Dealing with challenges has become the new normal, and individual leaders need to be capable of overcoming them even when they are caused by global economic issues and health crises, especially during the COVID-19 pandemic. Yet how to prepare leaders for increasingly challenging circumstances appears unclear in extant leadership and leadership development studies. Thus, this research investigates and provides insight into preparing leaders for challenges in terms of developmental strategies and essential capabilities for dealing with those challenges. This research identifies research gaps in the literature and presents empirical findings pertaining to leading in challenging situations (see Figure 11).

Previous studies on leading through challenges have reported several leadership strategies to help leaders to respond to challenges, for example, awareness of challenges (Heifetz et al., 2009), flexible leadership behaviour (Kaiser & Overfield, 2010; Norton, 2010; Yukl & Mahsud, 2010), and building up critical leadership skills under crisis and high work pressure (James & Wooten, 2010). Yet, these studies did not explicitly articulate how to help leaders develop the required capabilities.

Figure 11. Empirical Results—Preparing Leaders for Challenging Situations
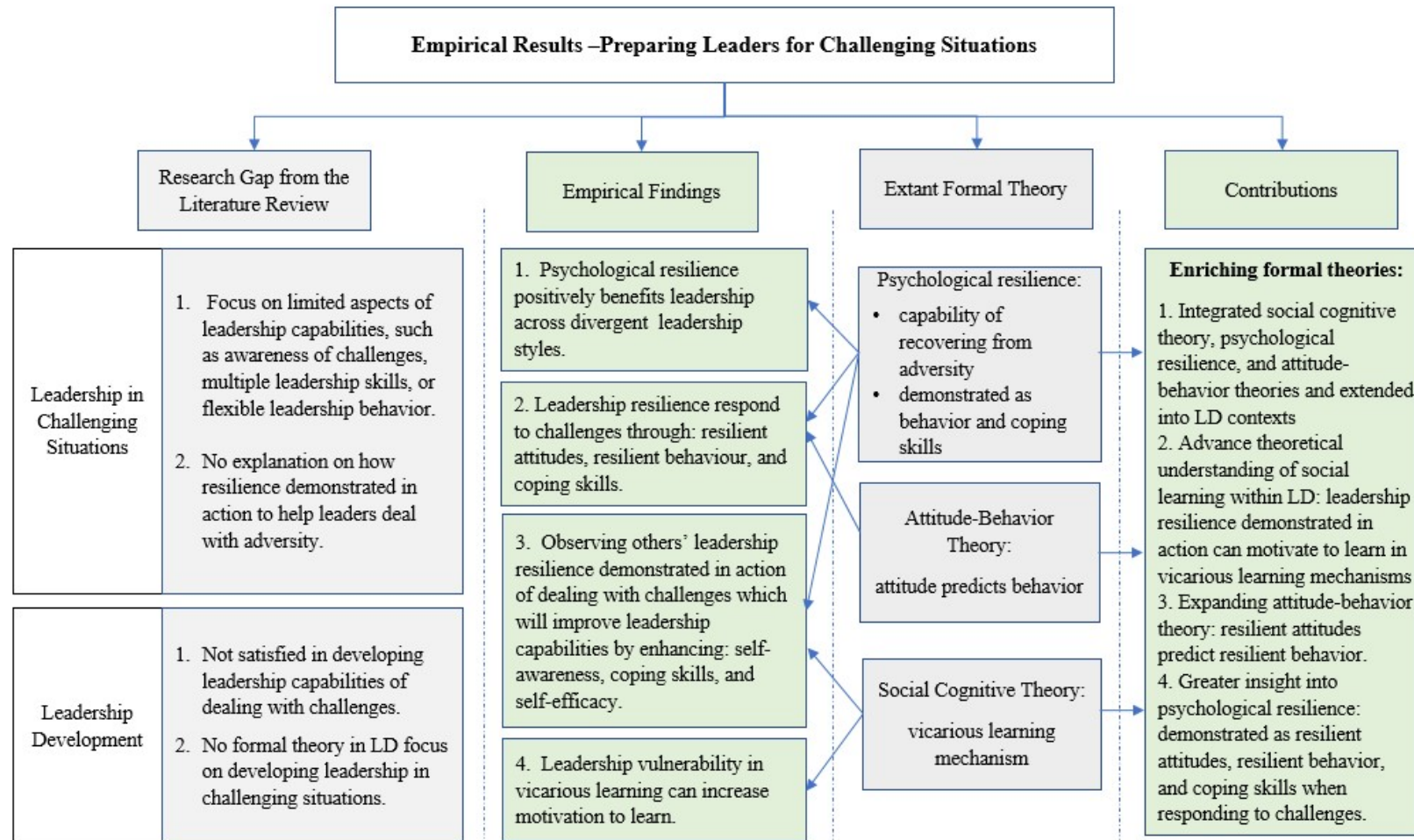
This inductive qualitative research addresses the identified research gap through four key empirical findings emerging from a systematic literature review (SLR) and two empirical studies: (1) psychological resilience is essential across leadership styles and positively benefits outputs in terms of well-being and satisfaction, job engagement, improved leadership capability and performance (Chapter 2.3); (2) observing others' leadership resilience as demonstrated in action in dealing with challenges can improve one's leadership capabilities by enhancing self-awareness, coping skills, and self-efficacy (Chapter 4.2), and (3) leadership resilience and leaders' vulnerability in vicarious learning can strongly increase motivation to learn (Chapter 4.2), (4) leadership resilience is demonstrated as resilient attitudes, resilient behaviour, and coping skills (Chapter 4.3).

Firstly, the systematic literature review on resilience and leadership found that psychological resilience is an essential capability across divergent leadership styles and can help leaders overcome challenges and benefit individual and organizational outcomes. Psychological resilience is defined as the capacity to help individuals bounce back from adversity and failure, even to get stronger (Luthans, 2002). Psychological resilience has been shown to have positive impacts on 12 types of leadership styles, including transformational leadership (Harland et al., 2004; Spiva et al., 2020), empowering leadership (Tau et al., 2018), authentic leadership (Zehir & Narcıkara, 2016), humble leadership (Zhu et al., 2019), and leader-member exchange (LMX) (Caniëls & Hatak, 2019; Gupta & Sharma, 2018) by improving leadership capability, work performance, and both leaders' and employees' wellbeing. Resilience also improves job engagement and mental health through mediating and moderating mechanisms (Cooke et al., 2019; Wang et al., 2017; Zhu et al., 2019). Drawing on the strong evidence

of positive effects on leadership, this research finds psychological resilience is an essential capability to deal with challenges across various leadership contexts. This finding is presented as the Building-up Resilience and Being Effective Model (shown as Figure 5 in Chapter 2.3). This finding provides a deeper understanding of how resilience is operationalized in leadership and explains that resilience is an essential quality and can be across various leadership contexts. This may encourage more future practical applications of resilience instead of evaluating the relationships between leadership, resilience, and outcomes. In particular, this may encourage individual leaders and organizations to adopt and build up resilience in workplaces in dynamic and uncertain circumstances.

The second empirical finding is articulated as observing how others' leadership resilience demonstrated in dealing with challenges will improve leadership capabilities by enhancing self-awareness, coping skills, and self-efficacy (Chapter 4.2). According to social learning theory, an individual can learn knowledge and skills through direct experience and vicarious experience (Bandura, 1977b). In this social cognitive perspective, vicarious learning theory indicates that individuals can be motivated to learn by observing and imitating others (Bandura, 1986). The vicarious learning theory has been widely used in education and adult learning research and is described as a process where people learn from observing others' behaviour and subsequent results (Brown et al., 2005; Grobler & Grobler, 2019; Hoover et al., 2012; Presbitero & Teng-Calleja, 2019). Yet, it is not apparent in the literature how vicarious learning influences leadership development in challenging situations. Thus this research addresses the research gap and reveals that vicarious learning can effectively prepare leaders for challenging situations.

Leaders may improve their leadership self-efficacy and attitudes towards such challenges by observing others' resilient attitudes, resilient behaviour, and coping skills as demonstrated in dealing with challenges.

The third finding of this research revealed that, within vicarious learning contexts, leadership vulnerability might increase motivation to learn. Study 2 (Chapter 4.2) found that some demotivating factors, such as trainers wearing a 'professional shield', can diminish participants' motivation to learn. By contrast, openly sharing personal struggles will inspire participants to enhance their leadership awareness and self-efficacy. This may suggest that true personal stories are critical in vicarious learning contexts, whether this is a success or failure story. This finding demonstrates the beneficial application of vulnerability theory (Mayer et al., 1995) in a leadership development context.

Leadership vulnerability has been described as being open to uncertainty, risk, and emotional exposure despite fears (Bruk et al., 2018) and is normally considered a negative perspective, e.g., as being powerless, weak, deficient, or passive (Gilson, 2013). However, vulnerability can be utilized positively, e.g., in subordinates' vulnerability (Lapidot et al., 2007) and leaders' vulnerability (Cannon, 2020) which can enhance the organizational relationship. Mayer et al. (1995) argue that showing vulnerabilities to another will promote relationships between people, and it is fruitful in organizational behaviours (Schoorman et al., 2007). Yet, how vulnerability impacts leadership development is not so clear in extant studies. This research extends the vulnerability theory into LD contexts and provides empirical evidence to explain the positive effects of vulnerability on leadership development, e.g., participants' engagement and enhanced self-efficacy.

Finally, this research presented a new pattern of leadership resilience that is demonstrated in action when responding to challenges. Leadership resilience can be displayed as resilient attitudes (calmness, adaptiveness, and optimism), resilient behaviour (being straightforward, learning from mistakes, and persisting with goals), and resilient skills (awareness, flexibility, dealing with pressure, and planning and resourcing) (shown as Figure 10 in Chapter 4.3).

The existing attitude-behaviour theories have found that attitude can strongly influence or determine individuals' behaviour (Fishbein & Ajzen, 2010). Managers with high emotional intelligence competencies were likely to provide their organizations with a unique contribution with various important work-related attitudes and behaviour (Carmeli, 2003). These previous studies described how attitudes toward works, environments, or people impact subsequent behaviour and individual and organizational performance (Carmeli, 2003; Moshavi et al., 2003; Savery, 1994). Yet, how leaders' attitude toward challenges may affect their behaviour and subsequent outcomes in workplaces is largely unclear in the literature. This research finding pertaining to the resilient attitude extends the object of attitude to challenges and reveals the significant effects of resilient attitudes on leadership capabilities in challenging environments. The new pattern of resilient attitudes expands the extant attitude-behaviour theories into the leadership development area and finds that resilient attitudes will influence leaders' behaviour and positively impact leadership outcomes. For instance, calmness, as one type of resilient attitude that consists of emotional status with the unwavering meaning of a rational life, can help individuals admit reality without diminished long-term confidence while confronting beyond-control issues (Kambartel, 2017). This attitude may influence

leaders' behaviour and improve their coping skills, such as looking for more resources and flexibly behaving, and gaining coping skills from tough experiences, which are essential in challenging situations.

Overall, by integrating attitude-behaviour theory (Fishbein & Ajzen, 2010; Maio & Haddock, 2015), psychological resilience (Luthans, Youssef, et al., 2007) with Bandura's (1986) social cognitive, this research reveals insights into how to prepare leaders for challenging situations across three dimensions: How, What, and Why. 'How' is about the employed method to develop leadership capabilities by vicarious learning from others' challenging experiences. 'What' is concerned with the leadership attributes (e.g., resilient attributes, resilient behaviour, and coping skills) that are demonstrated in actions when dealing with challenges. 'Why' is shown as the significant effect of resilience and vicarious learning mechanisms on leadership development, such as positive leadership outcomes and enhancement of self-awareness, coping skills, and self-efficacy.

In the causal model of social cognitive theory, personal, behavioural, and environmental factors interplay with each other as mutual determinants (Bandura, 1986). Underlying the various learning mechanisms, observing social models in the environment can motivate and inspire others to learn (Bandura, 2018). This research incorporated social cognitive theory (Bandura, 1986) with psychological resilience (Luthans et al., 2007) and attitude-behaviour theories (Fishbein & Ajzen, 2010; Maio & Haddock, 2015) and proposed the Leadership Resilience Development Framework (shown in Figure 12).

Figure 12. Leadership Resilience Development Framework
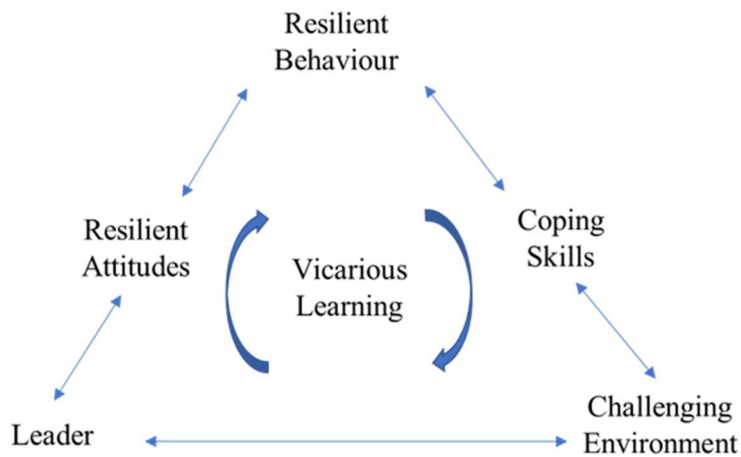
Bandura (1986)

By adding the two components of attitude and coping skill into the triadic schematization, the framework displays that leaders' resilient attitudes may interplay with personal factors mutually and influence leaders' resilient behaviour. Further, leaders' coping skills will interact with challenging environment and their behaviour reciprocally. Moreover, this research advances the understanding of the social cognitive theory that provides greater insights into vicarious learning mechanisms, which illuminate that leadership resilience demonstrated in challenging experiences can strongly improve motivation to learn in an LD context.

5.1. Theoretical Contributions

The social cognitive theory, developed by Bandura (1986), is one fundamental social psychology theory that articulates adults learning procedures. Albert Bandura initially reported that people could learn skills and behaviour by observing and imitating others (Bandura, 1962). In 1986, Bandura integrated the vicarious learning theory
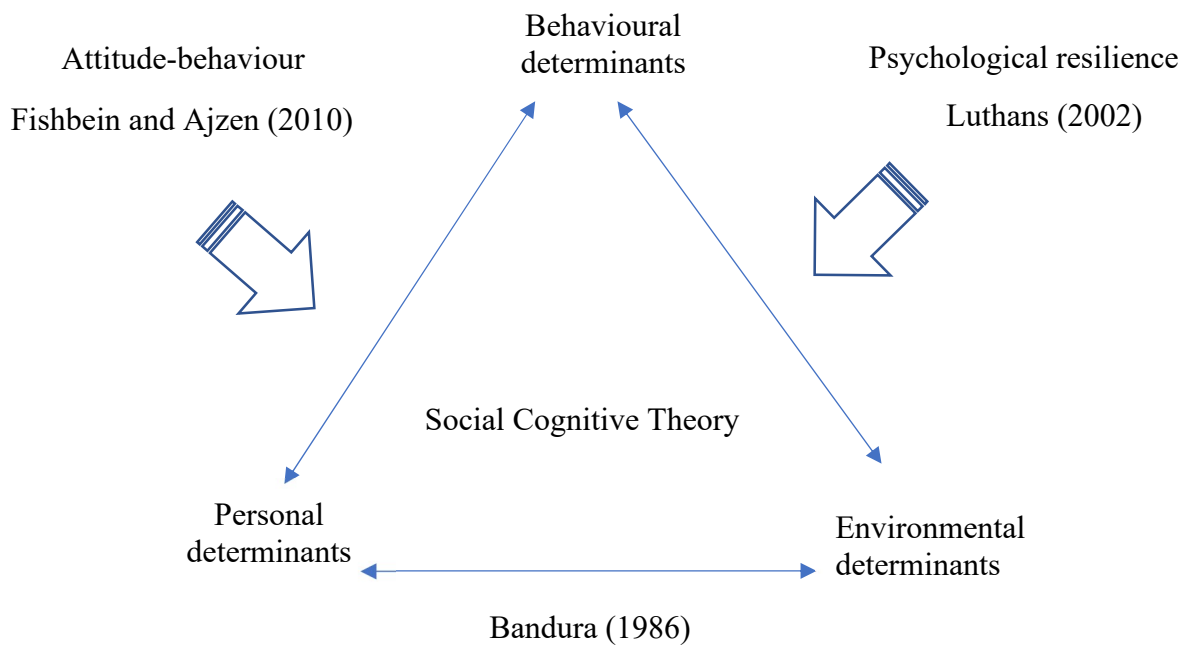
(modeling) and reinforcement theory into the social cognitive theory (Bandura, 1986). In the social cognitive theory, Bandura highlights behavioural antecedents and consequences as social and cognitive elements (Sims & Lorenzi, 1992). Bandura (1986, p.47) states, 'Behaviour, cognitive and other personal factors, and environmental influences all operate interactively as determinants of each other'.

Bandura (1986) explains that individuals' behaviour can be processed into environmental determinants and consequently can impact others' behaviour and guide action. Utilizing the role modeling method, a vicarious learning mechanism, has demonstrated individuals can learn from observing others' behaviour in children's development and adult learning areas (Bandura, 1986). Yet how it could be engaged in LD programs has been largely uninvestigated in the LD literature. This research provides insights into how social cognitive learning theory in leadership development and adds more details about What and How..

Academic research may create a theoretical pattern that provides interpretations pertaining to What, How, and Why contributions (Zhao, 1996). Whetten (1989) explains that 'What' refers to factors (e.g., variables, constructs, or concepts), 'How' is the relationship among them, and 'Why' is the underlying dynamic mechanism. According to Swedberg (2016), theoretical contributions may be articulated as expanding extant formal theories by encompassing emergent theoretical patterns about the three elements: What, How, and Why.

These three dimensions of insights into how to prepare leaders for challenging situations are supported by and enrich existing formal theories (shown in Figure 13).

Figure 13. Vicarious Learning in Leadership Development

Behavioural
determinants

Attitude-behaviour

Fishbein and Ajzen (2010)

Psychological resilience

Luthans (2002)

Social Cognitive Theory

Personal
determinants

Environmental
determinants

Bandura (1986)

First, the vicarious learning mechanism in developing leaders' capabilities to deal with challenges demonstrates the theoretical contribution of 'How'. This finding explains that leaders' attitudes and behaviour will be taken as environmental factors that may influence others, which extends Bandura's (1986) triadic reciprocal causation of Person, Behaviour, and Environment into leadership development contexts.

Secondly, this research adds insight into motivation to learn in the social cognitive theory, particularly in vicarious learning, which shows that vicarious learning is helpful to prepare leaders for challenges and the contribution of 'Why'. Attitude-behaviour theory can support the mechanism through which resilient attitudes can predict resilient behaviour and consequently improve leaders' outcomes. According to attitude-behaviour theory, an individual's attitude, associated with subjective norms, such as perceived

social pressure, may influence behavioural intention (determinant) and consequently predict behaviour (Fishbein & Ajzen, 2010). This can explain why resilient attitudes (such as adaptiveness) cause resilient behaviour (e.g., persisting on a goal under pressure) and subsequent positive outcomes, such as improved leadership skills. Furthermore, this research found that leadership resilience demonstrated in dealing with challenges can strongly motivate others to learn, which deepens theoretical understanding of 'Why' learning from others' challenging experiences.

Finally, this research provides a new concept of resilient attitude, and this enriches the existing two-dimension pattern and shows the theoretical contribution of 'What'. Over the past decades, research on resilience revealed its multidimensional characteristic and measured it variously, e.g., Connor-Davidson Resilience Scale (CD-RISC) (25 self-report items scale) (Connor & Davidson, 2003), ten items short version of CD-RISC (Campbell-Sills & Stein, 2007), and nine items Employee Resilience Scale (EMPRES) (Näswall et al., 2015). Most of these existing measurements investigated resilience from two dimensions: behaviour, coping ability, or both (Näswall et al., 2019). In addition,.most scholars perceived resilience as trait-like, state-like, or malleable capability (Hartmann et al., 2019; Liu, 2020; Luthans, Youssef, et al., 2007). Even some recent studies investigated resilience attitudinal elements, such as hope and optimism (Miller & Bowen, 2020), and the attitude of persistence toward obstacles (Sisto et al., 2019). This research advances understanding of resilience's attitudinal characteristics and provides specific criteria (i.e., calmness, adaptiveness, optimism). Subsequently, this contributes to psychological resilience by providing a new theoretical model which includes three dimensions: resilient attitude, resilient behaviour, and coping skills.

By integrating two formal theories, psychological resilience and attitude-behaviour theory in social cognitive theory, the current research enriches the theoretical understanding, providing insights into motivation to learn and motivation to transfer learning into social learning procedures. In particular, leaders' resilient attitudes and behaviour demonstrated during dealing with challenges can significantly increase others' motivation to learn and transfer, which are critical to LD programs' effectiveness.

Thus, this research provides theoretical contributions to prepare leaders for challenges from three aspects. Leadership resilience (Chapter 4.2) is a motivator to learn in an LD context contributes to Why, a vicarious learning mechanism (Chapter 4.2) displays theoretical contribution to How, and a new three dimensions resilience model (resilient attitude, resilient behaviour, and coping skills) (Chapter 4.3) provide a theoretical contribution to What.

5.2. Practical Contributions

This research found that leaders can vicariously learn from others' experiences of leading in challenging situations and use this learning to strengthen their leadership capabilities (Chapter 4.2). Leadership resilience can significantly help leaders deal with challenges and benefit leadership outcomes, including enhancing leadership capability, improving individual and organizational performance, and increasing job engagement (Chapter 2.3 and Chapter 4.2). Thus findings pertaining to leadership resilience (resilient attitudes, resilient behaviour, and coping skills) (Chapter 4.3) and vicarious learning mechanisms may contribute to practical applications, including (1) employing the vicarious learning mechanism in leadership development programs, (2) promoting

resilient attitudes and behaviour at workplaces, and (3) developing resilient attitude by embracing paradoxical perspectives.

This research reveals that developing leadership capabilities with vicarious learning needs to integrate with leaders' vulnerability by sharing challenging leadership experiences or personal weaknesses. Sharing leadership experience by wearing a professional shield is a demotivating factor that will diminish LD programs' motivation to learn (detailed in Chapter 4.2). By contrast, sharing personal struggles can inspire participants to enhance their leadership awareness and self-efficacy. In vicarious learning contexts, true personal stories are critical. Leaders' open and honest sharing of their challenging personal experiences is a powerful tool to increase motivation in others to learn and transfer knowledge or skills to workplaces. In addition, Study 2 (detailed in Chapter 4.2) adds more statistical validation to vicarious learning in building-up leaders' dealing with challenges.

Noe and Schmitt (1986) defined motivation to learn as a specific desire to learn, which can predict learning results directly or through evoked desire to use training at work, termed motivation to transfer. The current research found that trainers' challenging experiences can strongly motivate leaders to learn. In particular, guest leaders' leadership resilience, e.g., resilient attitudes (e.g., calm and adaptive), and resilient behaviour (e.g., being persistent under pressure and learning from failures) demonstrated in their challenging experiences, activate participants' desire to imitate, which is motivation to transfer. In LD practices, trainers can share their challenging experiences, vulnerability, and resilient responses to challenges, improving learning engagement in LD programs and inspiring participants to imitate others' leadership resilience.

Secondly, this research found that promoting resilient attitudes in workplaces may help individuals and organizations to prosper during challenging times. Attitudes have been acknowledged as a determinant of observed behaviour broadly since the 1970s (Fazio et al., 1983). Thus, promoting resilient attitudes, including calmness, adaptiveness, and optimism in workplaces, can help individuals and organizations to survive and thrive in challenging environments. Individuals with a resilient attitude tend to develop positive coping strategies to move across, demonstrate better capacities to buffer the negative impact of challenges, and subsequently show a flourishing state despite adversities (Gerino et al., 2017). By adapting to changing circumstances with resilient attitudes, individuals can be empowered to take active steps through difficult circumstances and thus bounce back to normal or better well-being (Luthans et al., 2007). Thus, promoting resilient attitudes at workplaces can help leaders confront challenges and maintain psychological health by preparing their mindset (e.g., accepting realities) and may subsequently lead to resilient behaviour (e.g., being aware of the adversity, making a straightforward work plan, or persist with a tough goal). By adapting to changing circumstances with resilient attitudes, leaders can be empowered to take active steps through difficult circumstances. When responding calmly to an extreme challenge, leaders can maintain their emotional stability, behave resiliently, and thus be able to confront challenges. Furthermore, from a reciprocal social cognitive perspective, resilient attitudes and behaviour may create a resilient organizational culture that will empower the organization to survive in challenging situations. Therefore, promoting resilient attitudes and behaviour at workplaces through leadership development programs and

other human resource activities may help individuals and organizations to prosper in challenging environments.

The third practical contribution is this thesis provides practical contributions to developing leadership resilience in general and resilient attitudes in particular by adopting a paradoxical perspective. Adopting a paradoxical perspective may help leaders and employees increase their awareness of challenges, focus on both the negative and potential positive aspects, and consequently improve their resilient attitudes. These findings can be utilized broadly in practices such as LD programs, talent management, and other human resource activities. In addition, this may align with the recommendation of building up resilience from the American Psychological Association (2020) and be utilized in daily leadership practice beyond workplaces, such as within a family setting and personal relationships.

Thus, promoting a paradoxical perspective and resilient attitudes can help individuals and organizations to prosper during ever-lasting challenging situations. Individuals with a resilient attitude may help them develop positive coping strategies to move across, demonstrate better capacities to buffer the negative impact of challenges, and subsequently show a flourishing state despite adversities (Gerino et al., 2017). By adapting to changing circumstances with resilient attitudes, individuals can be empowered to take active steps through difficult circumstances and thus bounce back to normal or better well-being (Luthans et al., 2007). When responding calmly to an extreme challenge, leaders can maintain their emotional stability, behave resiliently, and thus be able to confront challenges.

Moving forward, and following this discussion of paradoxical perspectives, 'ambidextrous leadership' could help to assist in coping with the complexities of paradox within psychological resilience in leadership. Ambidextrous leadership is related to Organizational Ambidexterity and is a theory pertaining to paradox (Smith and Butler, 2021). The theory, in simplistic terms, addresses and tackles two polar opposites, namely exploitation and exploration (Birkinshaw and Gupta, 2013; O'Reilly and Tushman, 2013). For resilience and ambidextrous leadership, the emphasis here is not on those specific organisational practices but is more about having the ability to offer radically different leadership approaches to suit the situation needed. As an example, to manage crises and effectively develop psychological resilience within leaders, there is a need to balance multiple stakeholders, e.g. the needs of the business and/versus the needs of its people. During a crisis (e.g., COVID-19), a single approach to leadership could prove ineffective for one of the key stakeholders (depending on the style adopted). Thus, ambidextrous leadership could offer a different way of thinking, could highlight a need for agility in leadership skills, and could be considered as a potential framework for developing psychological resilience in leaders. This could be one pathway for future research.

5.3. Methodological Contributions

Grounded Theory has become a popular methodological choice, mostly in qualitative research, for researchers across various disciplines since its academic inception in the seminal text in 1967 (Glaser & Strauss, 1967). According to Glaser's perspective, the application of open-coding, constant comparison, theoretical sampling, and theoretical sensitivity are recognized as core principles of grounded theory (GT)

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research (Corbin & Strauss, 2008). However, Grounded Theory has grown and developed into several strands, making its application all the more problematic, argumentative, and potentially remaining as a research methodology to be avoided by doctoral or early-career researchers. Thus, this research offers a methodological contribution by providing a transparent three-phase research method. This author-designed framework adopts these four GT core principles and three evolvements, which displays the study process in three sequential phases (shown in Figure 13 in Chapter 4.1).

The first phase includes two steps, and it starts from a broad pre-literature review and then shifts the wide-ranging research interests into more specific research aims. GT researchers articulated the role of the literature review and reported their concerns differently, such as pre-conceived concepts (Glaser, 1992), and the researcher's values demonstrated in the procedure of theory development (Timonen et al., 2018). These divergent articulations may confuse doctoral or new researchers and diminish their confidence to conduct GT studies. The current research explains the pre-literature review process and its purpose of identifying research gaps and defining research aims. This is carefully aligned to Glaser's idea of the literature review that has no pre-perceived conceptual framework in the data analysis process (Glaser, 2007) instead of anti-Glaserian. This clarified pr-literature review approach may lead to greater confidence for researchers when organizing and aligning their GT activities.

The second phase of the author-designed three-phase method includes data collection, the two-step open-coding process, theoretical sampling, and the two-step theory constituting process. Glaser's classic GT does not specify a specific coding process (i.e., either conducting a one-step or two-step coding process). He explains that

selective coding follows open coding and emphasizes open-coding in combination with the constant comparison technique (Glaser, 1992). Other GT scholars articulated open coding variously. Strauss (the other co-founder of GT methodology) developed the axial coding method for GT studies, which was the procedure whereby GT researchers put back the emergent concepts from the open coding into data and make connections between them by involving contexts (Strauss, 1987). By contrast, Charmaz (2014) shares her open ideas as combining axial coding and the theoretical coding method. Bryant et al. (2019) argue that GT research is a big and turbulent family of methods, and some of these approaches are conflicted. These comments on coding show that the GM family lacks an explicit and stable coding process which may challenge doctoral students successfully traverse this open-coding process without a specific process. The author-designed the two-step open-coding process, and the two-step theory constituting process can practically help other new researchers.

The third phase of the three-phase research method comprises post-literature review and theory elaboration, which intend to interpret and elaborate the emergent substantive theories with extant formal theories and empirical studies. Compared to definitive concepts illustrated with clear attributes or fixed benchmarks, a sensitizing concept lacks precise attributes or measuring criteria (Blumer, 1954). The post-literature review is the second step of the two-step coding method, which can build theoretical relationships between emergent substantive theories and extant formal theory. Through the post-literature review, extending formal theories and knowledge to yet unknown territory can provide theoretical contributions (Glaser, 1992).

To summarize, this research demonstrates a methodological contribution through presenting the Three-phase Data-analysis Framework by employing three evolved grounded theory-based methods: the two-step literature review, two-step open-coding, and the two-step theory-constituting method. Doctoral or early career researchers may not be capable of using open-coding, or they do not have experienced conceptual ability in grounded-theory research (Glaser, 1999). The author-designed GT framework can break down the research project into smaller parts and lower the research ability threshold, which is achievable for early career researchers. The author-designed Three-Stage Research Framework provides a GT guideline for other doctoral students or ECR researchers, which might inspire more GT research through detailed processes.

5.4. Research Limitations and Future Research Recommendations

Although this research provides some valuable findings, it also comes with certain limitations. As a group of inductive approaches, the current research presents only initial results, and this requires further empirical investigation to test the generalizability of the findings. One limitation is that the data were collected in 2013 from a leadership program in Australia with a small sample size (N=42). This data set has limits, and no demographic information, such as name, gender, age, education, etc. As mentioned before, leaders may face diverse situations and challenges in various leadership contexts. Future studies may investigate how vicarious learning of leadership resilience impacts leadership development across various cultural contexts and diverse samples to explore whether research results are transferable to other countries and/or industrial groups. Moreover, future studies could adopt quantitative or mixed methods in an attempt to generalize findings. For example, the current research tested the grounded theory derived

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from the inductive stage by expanding a qualitative-dominated approach into a mixed-method through transforming qualitative results into quantitative data (detailed in Appendix 5). This research has not statistically tested all these qualitative findings, and therefore future studies may refer to the process and investigate further.

Secondly, the findings in the empirical study (detailed in Chapter 4.2) provided general insight into how leadership resilience is demonstrated when dealing with challenges, which needs deeper exploration. This research is limited to investigating gender differences as the data set did not provide gender information about participant leaders. Future studies may further investigate gender roles in dealing with various challenging situations. For example, whether leaders' challenging experiences impact leadership outcomes according to gender differences, or female or male leaders may confront different challenges. Future studies could investigate whether leadership resilience may diverge along the lines of gender differences and cultural differences. In addition, this study found some demotivators, such as "pretended hero" or "wearing a professional mask", can be explained with and adopted by Trust and Vulnerability theory in the leadership development discipline. Future research may investigate how trust-relationship impacts leadership development.

The third limitation is that the findings of leadership resilience emerged from individual leaders' reflections in a leadership program rather than from real workplaces. This research did not discover how leadership resilience can influence and empower other employees or teams. Future studies could investigate how leadership resilience takes place at workplaces or within a collective perspective, e.g., how organizational or national culture affects leaders' resilience.

Fourth, the Leadership Resilience Development Model proposed in this research (Figure 12 in Chapter 4.2) contains limitations because empirical studies have not tested the reciprocal determinants relationship between resilient attitude and behaviour. The extant attitude-behaviour theories have stated that individuals' attitude may significantly influence their behaviour. Yet the literature is not clear in articulating how behaviour impacts attitude. This research found that leaders' resilient attitude and behaviour may affect others' resilient attitudes, e.g., calmness and adaptiveness. Future studies may investigate whether and how individuals' behaviour and consequences influence their attitudes.

This research has also reported some findings on two topics with limited investigation: (1) how vicarious learning is associated with motivation to learn, and (2) how to build-up resilient attitudes through adopting a paradoxical perspective. Future studies may deepen understanding of these topics.

This research found that vicarious learning from others' challenging experiences can enhance leaders' self-efficacy (or confidence). This finding is not fully aligned with extant studies, as previous studies reported different effects of others' experiences on motivations to learn. For example, Weick (2007) found that individuals may lose their motivation to learn when they could not perform as well as their role models. However, observers may be motivated to learn from others' successful cases when they assess that success is possible to imitate. This finding differed from the study (Quinn et al., 2021) that found that vicarious learning from successful stories can improve learning motivation. Quinn et al. (2021) explore how people can be motivated to learn from other persons' stories, including failure, normal success, and exceptional success stories. Thus,

the possibility of performing or self-efficacy may significantly increase observers' motivation to learn. People will take action when they believe that they can perform (Bandura, 1977a). On the contrary, they may avoid or escape from a tough task when considering the required capabilities over their competencies. Thus, the current research argues that perceived self-efficacy can explain the inconsistent motivation to learn presented in the literature, either from success or failure. When individuals have the confidence to imitate others' successful stories, they may have higher motivation to emulate and vice versa. However, how self-efficacy impacts the motivation to learn in leadership development remains largely under investigation and needs more academic studies to discern underlining mechanisms.

Furthermore, the research found paradoxical perspective may be helpful in developing a resilient attitude with limited empirical evidence to support it. Future research may study the association between resilient attitudes and paradoxical perspectives. Scholars have defined paradox (salient paradoxes and latent paradoxes) as a persistent contradiction and interdependence between elements (Schad et al., 2016). Salient paradoxes are naturally inherent in organizations as the multiple objectives from diverse stakeholders, whereas latent paradoxes refer to how actors perceive paradoxes (Schad et al., 2016). In a paradoxical lens, challenges may cause stress and problems and may be associated with opportunities, such as preparing the mindset and obtaining coping skills from challenging situations. The current research found that three types of resilient attitudes (calmness, adaptiveness, and optimism) are demonstrated when dealing with challenges. Through empirical studies, future research may test this assumption about paradoxical perspective and resilient attitude development.

Chapter 6: Conclusion

Challenges, defined as various problems or obstacles in leaders' daily work, are inevitable; therefore, leaders and organizations need to be capable of confronting various challenges as current work environments are dynamic and increasingly competitive. Thus, this research aims to reveal insights into how to prepare leaders for challenging circumstances, particularly the building-up procedure and the underpinned mechanism of required leadership capabilities. By investigating reflections of 42 Australian leaders in a leadership program through conducting a group of inductive studies, this research provides insights into how to prepare leaders in terms of How (vicarious learning mechanism), What (leadership resilience), and Why (enhanced leadership capability and positive outcomes) through four key findings.

First, the systematic literature review (in Chapter 2.3) found that psychological resilience, the capability of helping individuals and organizations bounce back from adversities, is the essential leadership capability within broad contexts to deal with work-related challenges and improve outcomes, including performance and wellbeing. The second finding is that, when dealing with challenges, leadership resilience may be displayed as resilient attitudes (calmness, adaptiveness, and optimism), resilient behaviour (being straightforward, learning from mistakes, and persisting with goals), and coping skills (awareness, flexibility, dealing with pressure, planning and resourcing). The third finding is that observing others' leadership resilience demonstrated during dealing with challenges will motivate leaders to learn and improve leadership capabilities by enhancing self-awareness, coping skills, and self-efficacy. The fourth finding is that leadership vulnerability, displayed as openly sharing leaders' personal struggles or

weaknesses, is helpful to build-up trust relationships and consequently enhance others'

motivation to learn, which practically contribute to LD trainers and encourage them to

avoid potential demotivating factors, such as 'always wearing a professional mask'.

These qulitative findings show that leadership resilience can be developed through

vicarious learning mechanisms from others' challenging experiences and their resilient

responses. This process is termed the 'Leadership Resilience Development Framework'

in this thesis , and it adopts psychological resilience and attitude-behaviour theories into

the triadic reciprocal causation determinism of social cognitive theory. This research

demonstrates theoretical contributions through two aspects: (1) advance theoretical

understanding of social cognitive theory (vicarious learning) within the leadership

development domain, particularly in developing leadership resilience, and (2) enrich the

classical social cognitive theory by adopting psychological resilience and coping skills

elements into the triadic reciprocal schematization.

This research also makes methodological contributions. The author-designed three-

phase research framework presents a transparent step-by-step guide integrating Glaser's

four core principles and three evolved methods. Three evolved analysis methods,

including the two-step literature review, two-step opening coding, and two-step theory-

constituting method, break down the research project into smaller parts. The Three-Phase

Research Framework will support research in breaking down complex qualitative tasks

and guiding a doctoral student or early-career researcher in conducting a grounded-

theory-based data analysis.

To conclude, leaders can vicariously learn from others by observing others'

resilient attributes, resilient behaviour, and coping skills demonstrated in challenging

situations and subsequently benefit their leadership capabilities (e.g., self-efficacy, self-awareness, and leadership skills), which can prepare leaders to confront work challenges. Thus, leaders and organizations can survive and thrive in challenging circumstances, just as the Chinese proverb said: 挑战与机遇并存**: Challenges are opportunities in disguise.**

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Appendices

Appendix 1. Master Lists of Repeating Ideas

Master List 1 of Repeating Ideas-What did You Learn from This Program?

1. The leadership program has expanded my knowledge of the different types of leaders and leadership styles.
2. The program has certainly provided many opportunities for me to enhance my own leadership qualities and to continually reflect on my own style and that of others.
3. This really broadened my understanding and recognition of leadership beyond,
4. In terms of my own leadership development, I feel I understand a deeper meaning of leadership having encountered such diversity in the speakers across the year.
5. This has been a true benefit of being part of this program. The access we have received to leaders across corporate, government and NFP (and some very high profile) has been fantastic, and not something that can be readily replicated. Whilst the leaders have been varied (in frankness some more 'leaders' than others) many have provided some gem or quality that I have been able to reflect on, and look to integrate into my thoughts on leadership
6. I have felt validated at times with my current philosophy/approach by what some leaders have said, and there have also been a few instances of absorbing something new into my philosophy
7. I became extremely clear about my philosophy of leadership and both how I want to lead and how I want to be lead. It brought into relief where I think my leadership strengths are and areas where I need to actively focus.
8. The leaders I have been exposed to over the year have caused me to try to be less arrogant as a leader; to be more mindful of the fact that I don't have all the answers and neither am I required to; and have caused me to reconsider what successful leadership looks like for me.
9. I have learned a great deal about the various aspects of leadership and have taken valuable key points from each event which I will continue to build on
10. My leadership has been enhanced by (1) extending my knowledge about leadership

theory and practice; (2) broadening my perspective as to various ways people lead;

11. Many of them have challenged me to think about and adapt my own personal leadership style with my work colleagues, friends and family. I have a new consciousness of what it means to be a leader with a social conscience and an interest in the well being of the broader community, as opposed to a task focused manager of people.

12. I have been fortunate to have left every experience with either a new leadership 'tool', or more commonly a better way of using the knowledge (tools) I already possess. The most obvious example for me has been reinforcing the importance of the human side of my leadership role and increasing the opportunity for communication in every instance.

13. Through exposure to these leaders, I have changed my perception of what leadership is, and of who the people leading in our business and government communities really are

14. I have had my horizons broadened by the friendships I have built in the cohort.

15. My focus has been on broadening my understanding of the issues facing WA and what role I can play in improving our wonderful community rather and my personal leadership.

16. Listening to the leaders over the year provided me with key messages on what leadership is and the variety of scope across different leadership styles and also across sectors

17. Overall I think the Corporation has invested in a leader that has grown immensely this year in their strategic and leadership capabilities and competencies.

18. Many of my team members have passed comment that they have observed a real growth in my leadership skills this year and a "blossoming" in my self-awareness, confidence and capability.

19. Because of the program, I am more aware of the many business and social aspects of WA and as such I am more informed in my thinking and decision making.

20. My team has certainly benefited, there have been numerous ideas that I have been able to use.

21. In my instance the program has helped evolve someone who is far more: - Societally

aware and informed - Self-aware of my own leadership style, what I value in leadership, what I can do to make a greater impact - Balanced and considerate of others views - In touch with what's important to me.

22. Other than sharing my experiences with colleagues on my return, I wouldn't have said it has yet had any real benefits to my workplace.

23. The knowledge I have gained from the speakers will assist me in my personal management style.

24. This experience has definitely enhanced my general knowledge and broadened my outlook on community issues

25. The program itself has empowered me to be far more proactive in my role within my organization and also equipped me with some new skills in ensuring I am successful in my endeavors.

26. As I look after leadership in the organization it has given me a wealth of knowledge to take this to the next level.

27. Through the further development of my leadership skills and understanding of broader issues facing WA Reputation enhanced through greater understanding by others of different aspects of the company Potentially through access to new talent.

28. My leadership capacity is enhanced, as is my network.

29. Aside from my own personal development and improved skills, I don't think there was much buy-in from my employer.

30. I believe that I have become a more knowledgeable and confident leader through participation in the program.

31. I was continually inspired and challenged by the many topics and issues presented. I am very interested in Aboriginal issues and moving forward to improve the current gap between Aboriginal and non-Aboriginal Australians.

32. Some speakers have talked about issues that have challenged my thinking and even made me realize I did not want to be that type of leader. For example, those that spoke about only being able to achieve leadership positions through long hours and sacrifice. But there were others who really left a lasting impression on me and have encouraged me to think about my own leadership style and how I lead my organization. They have focussed my thinking and encouraged me to think outside

the square; be brave; be confident and be authentic. It has been a year of personal growth and development. The experiences have made me think about who I am and where I want to be as well as how to position myself to get there.

33. Made me realize that for me how it feels is the difference between good and great – but also that as a leader you can materially shape that for your team.

34. The range of leaders that we have engaged with has been amazing. I have definitely taken on board a lot of their comments and one line insights.

35. I was certainly exposed to a number of highly experienced leaders – most experiences focused on this aspect and (while there were some commonalities of approach at times), almost all were able to provide me with a different and unique insight into various aspects

36. Each and everyone has had something different to share, making me think hard about my own style and approach and trying new things in my workplace.

37. Also, the general awareness of the state and bigger picture can only add value to my role

38. This year has also encouraged me to recognize my own personal qualities as a leader and the value that I can bring to my own organization as well as to others. It has given me more confidence in the way that I approach opportunities and challenges at work.

39. I also have a better understanding of what concerns other leaders outside of my organization and can take a role in ensuring different views and concerns are communicated and considered.

40. I found that I could learn from their experience from different stages of their career journey that aligned to my own.   My learning from a homeless person has been just as enriching as the CEO of a large national corporation, which is a reminder for me is not to judge a book by its cover.

41. I do see some similarities in my day to day challenges with those of leaders who work on a much bigger scale than me.

42. Sharing leadership stories and the opportunity for Q&A gave a privileged insight into the experiences of a wide range of leaders. This reinforced my own leadership values more than it did challenge them.

43. This was highly beneficial as it has very much refined my views on leadership and

provided me with some new viewpoints that I can make use of in the future.

44. I have used this as a way to reinforce and check my own leadership approach and style. I have done this through the things that I think I do well as well as the things that I think I don't do as well.

45. It has allowed me to identify my own leadership style and to feel comfortable and confident knowing that I am been true to myself.

46. I now have the ability to share that knowledge with my colleagues, friends, and family on issues that I probably would not talk about in the past but now have an informed opinion and feel that I can contribute to discussion, debate and influence them.

47. My colleagues have commented that I have really shown growth and "blossomed" this year.

48. Being exposed to so many leaders has resulted in my reflecting more on my practices and a determination to more consciously address my leadership approach.

49. I believe that my leadership capacity has been greatly enhanced throughout the course of the program, not only from hearing about the leadership experiences of our guest speakers but also from considering the issues they have faced across their careers.

50. For me, this has been a revelation that I can achieve in leadership positions without changing who I am.

51. In fact, areas of my leadership and character I once saw as weaknesses I now know to be strengths.

52. I think it has enhanced my leadership through a better understanding of what being a leader means. The various leaders who presented had all traveled different leadership journeys to get to different places. Each person espoused a different perspective on what being a leader meant and how to become a better leader.

53. I have used this as a way to reinforce and check my own leadership approach and style. I have done this through the things that I think I do well as well as the things that I think I don't do as well.

54. Without a doubt, I feel like my leadership has been enhanced and I feel this has happened from exposure to the cohort as much as the leaders who spoke with us. On re-reading my reflections it's amazing to refresh how many quality leaders we have been fortunate enough to meet and hear from and how open and transparent they were

in sharing their leadership journey's and lessons.

55. From an individual point of view, the benefits to the organization have been the growth in my confidence and knowledge base and the ability to share it with my peers.

56. I am more calm, considerate, confident, mature and perceptive. I am filling into the capacity gaps I had/have still within myself.

57. This helps me get better outcomes for work and greater self-esteem for me.

58. I believe my personal growth as a leader (in the context of self-awareness, resilience, and improved leadership effectiveness) has provided benefits to the teams in my Branch.

59. Overall I think the Corporation has invested in a leader that has grown immensely this year in their strategic and leadership capabilities and competencies.

60. I am continuing to grow and mature into a well-rounded leader within my organization.

61. I feel I am more confident but with greater empathy and ability to pass on my experiences to others to help them grow through the organization.

62. I have been advised that I now have more confidence and am willing to speak up and challenge the status quo more.

63. Many of my team members have passed comment that they have observed a real growth in my leadership skills this year and a "blossoming" in my self-awareness, confidence and capability.

64. They have a much more confident leader who is cognisant of a range of issues and the capacity to work within new networks to meet the organization's needs.

65. The benefit for my employer is someone who feels empowered and equipped to lead, and with access to a supporting network to make this happen.   I believe this will impact my efficacy in my role, the quality of my leadership, my development of others and the contribution I help make to the community.

66. I have applied some of the skills learned directly in managing some interpersonal problems at work.

67. This year has also encouraged me to recognize my own personal qualities as a leader and the value that I can bring to my own organization as well as to others. It has given

me more confidence in the way that I approach opportunities and challenges at work.

68. My self-confidence has increased which ultimately makes me a better leader both in a work and community capacity.

69. The program itself has empowered me to be far more proactive in my role within my organization and also equipped me with some new skills in ensuring I am successful in my endeavors.

70. I believe the leadership growth I have experienced will make me a better manager and team member and I will be able to better identify opportunities for the benefit of my organization in the future.

71. The program has helped me grow as a leader.

72. My organization has benefitted from my development as a more complete person with
    • a better understanding of the issues facing the state.

73. My leadership capacity is enhanced, as is my network.

74. By stepping out of business on a regular basis it's actually helped my direct reports to grow and become more self-reliant.

75. I have gained in confidence over the year which has enabled me to challenge matters more effectively and get even better outcomes, I've had the confidence to put new processes in place and to put business cases up that I might not have previously.

76. I have grown as a leader and more confident to speak out for my teams. I know I appear confident on the outside but I now feel more confident on the inside! I am more aware of my actions and how I influence others and how I can make a difference. I have had senior staff comment on the change in my style or me.

77. I believe that I have become a more knowledgeable and confident leader through participation in the program.

Master List 2 of Repeating Ideas-- What Inspired You to Learn?

1. I have been able to enhance my leadership by cherry-picking the many 'gems' along the way and modeling behavioural styles or ways of thinking.

2. They were all willing to share their careers and learning with us whilst the leaders come from many different industries I was struck by the similarity of many of their experiences and the advice they gave us.

3. Communication is the key, grab opportunities and extend your influence through strategic thinking. The importance of transparency, integrity, and authenticity of letting people know what you want to do is paramount. After each experience, the reflection provided an opportunity to link learning to my own leadership journey and practice. This has been very valuable.

4. Their open, honest and frank discussions about their own journeys have been inspiring, reflective and enlightening.

5. Our exposure to leaders has been so diverse and their level of experience has varied. As a young leader, this variation has been helpful for my learning.

6. I found that I could learn from their experience from different stages of their career journey that aligned to my own. My learning from a homeless person in Perth has been just as enriching as the CEO of a large national corporation, which is a reminder for me is not to judge a book by its cover. I had some level of insight and knowledge of many of the issues presented to us, but having an experienced speaker to deliver the messages gave a deeper understanding.

7. I have really enjoyed listening and learning from leaders who can only lead by influence due to their position.

8. This has been a key element of the program with exposure to diverse leaders from a wide range of backgrounds, organizations and environments. Some leaders have been influential and left their mark, whilst others have been less so.

9. I found the opportunity to listen and learn from such a diverse and experienced group of leaders truly amazing. There insight and knowledge were invaluable in my own leadership journey.

10. Through exposure to a range of highly experienced and diverse leaders, I have had the opportunity to take away snippets from each, some more than others, and apply that in

my own life.

11. the topics upon which we are hearing, but also (and unexpectedly for me) from interacting with other members of the cohort who I have discovered to be excellent leaders in their own right.

12. This was one of the two key strengths of the program for me. These two key strengths were the exposure to leaders (both experienced and grassroots) and the opportunity to spend quality time with fellow program participants.

13. To summarise this more specifically I would say that leadership at all levels of our community is more about creating visions, communicating well and building consensus than it is about being aggressively powerful and dogmatically decisive.

14. I think the leaders have not just necessarily been 'experienced leaders' but leaders with a great story and lessons to share.

15. Having access to these leaders was a wonderful opportunity.

16. Without a doubt, I feel like my leadership has been enhanced and I feel this has happened from exposure to the cohort as much as the leaders who spoke with us.   On re-reading my reflections it's amazing to refresh how many quality leaders we have been fortunate enough to meet and hear from and how open and transparent they were in sharing their leadership journey's and lessons.

17. Communication, passion, vision, courage, and an incredible work ethic were themes that resonated throughout the year.

18. Nevertheless, the exposure/experience to other leaders in other sectors was very beneficial and I have learned a good deal.

19. The depth and range of leaders both within the program, and who came to speak to us, was exceptional.

20. The influence of the amazing leaders we have been exposed to has been enormous

21. Each and everyone has had something different to share, making me think hard about my own style and approach and trying new things in my workplace.

22. There have been a number of management style wisdom from both guest speakers and cohort members which I have taken back to use within my own team, and I have also flagged a few opportunities for consideration in strategic areas of our business.

23. The importance of transparency, integrity, and authenticity of letting people know

what you want to do is paramount.

24. Their open, honest, and frank discussions about their own journeys have been inspiring, reflective and enlightening.

25. What did surprise me was that despite the diversity of leaders we met, there was an enormous amount of consistency to their approach and values. It also struck me that, from a pretty impressive crop, there were some leaders who I found far more inspirational than others. What made the huge difference at the margin was two things alignment of values and the attitude and enthusiasm they bring.

26. I have been surprised at how humble and down to earth that many leaders have been throughout the year.

27. We were privileged to hear from an incredible and diverse range of speakers - most of whom I appreciated for their humility and humanity.

28. I have also observed some amazing examples of where the leader's passion and authenticity have had me almost mesmerized. The leaders I have enjoyed the most have had these traits. Equally important, however, has been to ensure they have 'tempered' their passion and shown the appropriate part of their authentic self. This too has been really powerful and important to me.

29. The common thread was people and values. The leaders who resonated the most with me were those that were most open, displayed their insecurities and were refreshingly honest.

30. Communication, passion, vision, courage and an incredible work ethic were themes that resonated throughout the year.

31. It was these leaders that I found to be truly authentic and people to admire for their care and commitment along with key leadership attributes.

32. They were all willing to share their careers and learning with us whilst the leaders come from many different industries. I was struck by the similarity of many of their experiences and the advice they gave us.

33. What did surprise me was that despite the diversity of leaders we met there was an enormous amount of consistency to their approach and values. It also struck me that, from a pretty impressive crop, there were some leaders who I found far more inspirational than others. What made the huge difference at the margin was two

things alignment of values and the attitude and enthusiasm they bring.

34. Listening to other leaders' stories about their career path, their challenges and what they deemed was important to their leadership helped to hone a sense of what good leadership means to me.

35. Having first-hand personal accounts of many individuals' responses to private and professional challenges as a person and in their leadership capacity is a rare and insightful gift.

36. I was particularly moved by the presentations from disadvantaged youth including speakers from "The Big Issue" and Fairbridge Farm. These presentations made a huge impact on me and have changed the way I approach the inequity that exists in this country.

37. I particularly enjoyed those that did not appreciate their leadership qualities in those smaller communities and those that had experienced life's ups and downs such as the Big Issue sellers, the refugees and the young adults at Fairbridge. Those that could recount a personal experience resonated most.

38. Listening to other leader's stories about their career path, their challenges and what they deemed was important to their leadership really helped to hone a sense of what good leadership means to me.

39. For example, talking to the young guys at Clontarf about some of the challenges they (and their pupils) face on a daily basis and the stoicism with which they rose to those challenges was very inspiring.

40. I have a greater depth of appreciation for the issues in the state and the people who take responsibility for, or have been promoted into positions to tackle the issues and challenges.

41. I believe that my leadership capacity has been greatly enhanced throughout the course of the program, not only from hearing about the leadership experiences of our guest speakers but also from considering the issues they have faced across their careers.

42. Hearing about difficult challenges was the most valuable aspect.

43. What has constantly surprised me or indeed confirmed what my beliefs were prior, is that it didn't matter what area from the community the leader came from they all held very similar principles of leadership and they didn't really change much – only the

focus of the challenges of their industries varied.

Appendix 2. Examples of Raw Data

Examples for data set. To show the raw data includes rich information and it is reliable data set.

Guest speaker A: a director of an NGO, shared her personal tragedy. One family member killed another one. Her husband was broken down, her parents broken down. She is the only one who can keep the family going on. She shared how she had to support family members and take care of children. Also, how she gets support from the government by going through a long process. After that, she quit the paid job and joined the NGO as a volunteer. She knows the experiences, learned from her experiences, and wants to help others in difficult situations.

Participants' reflection:

1. The central message of her speech was that it is not what happens to us that matters, but what we do after that matters. The strength and resilience that she has shown despite incredible hardship is quite inspirational.

2. I was very moved by the way in which you showed us that we never know what is going to happen to us but that by being resilient, strong, determined, passionate and caring people, we can survive and use our experiences to try and make the world a better and more just place.

Guest speaker B: He is the CEO of one of the biggest companies in Australia. He shared his early experiences, growing up in a well-educated family, a couple of years in the USA, a competitive environment, and ambition. Then, he shared his company culture and some of the challenges: gender is un-balanced in top leaders, dominated by males. And a contradiction in commercial profit and social responsibilities—how to care for other small businesses.

3. There was nothing that he said that really provoked me. He did not 'walk the talk' when it came to gender equity and integrity on moral issues such as the sale of alcohol and gambling.

4. I was also surprised that you referred to corporate social responsibility and Indigenous issues, but gave us no information about what you are doing in this

field, or what you are most proud of achieving in the social change/community development sphere.

5. The guest speaker didn't allow us to hear his personal struggles or what he actually thought or believed. The man is behind the professional shield.

Response to the final survey: to show the findings of improved leadership capabilities

6. I believe that my leadership capacity has been greatly enhanced throughout the course of the program, not only from hearing about the leadership experiences of our guest speakers but also from considering the issues they have faced across their careers. (enhance leadership capability through others' challenging experience)

7. From an individual point of view, the benefits to the organization has been the growth in my confidence and knowledge base and the ability to share it with my peers. (knowledge and confidence)

8. This year has also encouraged me to recognize my own personal qualities as a leader and the value that I can bring to my own organization as well as to others. It has given me more confidence in the way that I approach opportunities and challenges at work. (confidence)

9. The experiences have made me think about who I am, where I want to be, as well as how to position myself to get there. (self-awareness and confidence)

Appendix 3. An Example of Open-coding

Open-coding: coding is not based on a pre-conceived conceptual framework. An example to explain what open-coding is.

Build-up & Broaden theory (B&B) is one of the positive psychological theories. It said positive emotions such as joy, gratitude, interest, hope, love, etc., may build-up personal capabilities and help people to access more resources—broaden. At the beginning of this research, the candidate believes positive emotions will help leaders deal with challenges as those can build up leaders' capability and get more resources from outside. However, the results that emerged from the open-coding data-analysis approach do not reveal B&B in the leadership development program.

Appendix 4. Expanding Grounded Theory to a Mixed-Method Approach within a

Leadership Development Study

Abstract

Since the inception of grounded theory (GT) in 1967, it has been adopted largely as a qualitative-dominated approach. Yet, GT comes with a fair amount of criticism, particularly the general limitation of qualitative research whereby the derived theoretical conclusion has not been tested. Thus, to tackle such a limitation head-on, this study presents and explores a three-stage mixed-method GT approach and intends to provide additional reliability to qualitative GT approaches.

A three-stage mixed-method GT framework is utilised and demonstrated within a leadership development (LD) study in Australia. The first stage succinctly presents initial qualitative findings related to the LD study. The second stage transforms the qualitative findings into quantitative data and generates hypotheses. Finally, the third stage tests these hypotheses.

This three-stage mixed-method GT approach expands GT shifts a qualitative dynamic into a blended mixed-method approach. This then enhances the qualitative results and promotes further theoretical and practical applications. The techniques of data transformation and subsequent qualitative-to-quantitative data analysis can assist other researchers with a transparent step-by-step guide. This paper can then offer an additional option to researchers within mixed-method research, as well as maximizing the potential impact of GT research.

Keywords: grounded theory, mixed-method, data transformation, leadership development

Introduction

A study adopting a qualitative methodology intends to deepen the understanding of a research problem associated with the 'how' and 'why' (Saunders et al., 2019). Research methods are the techniques and procedures employed in data collection and data analysis related to answering questions around the research problem (Crotty, 1998). Thus, the answering of questions such as 'how' and 'why' often requires interpreting a subjective meaning within qualitative research (Tracy, 2010). Ground Theory (GT) is a long-established popular choice for researchers contemplating qualitative data approaches amongst a variety of subject backgrounds since the introduction of the seminal text by Glaser and Strauss (1967). Over time, GT has developed divergently and is named differently, such as Glaser's Classical GT (Glaser 1992), Charmaz's Constructivist GT (Charmaz 2014), and other theoretical grounding approaches (Goldkuhl & Cronholm, 2010).

These scholars evolved a number of nuanced strands of qualitative approaches and added new approaches to aid GT's further GT development and provided detailed information in some aspects, e.g. a constructivist grounded theory research guideline (Charmaz, 2014; Charmaz & Thornberg, 2020), and a checklist of saturated concepts (Corbin & Strauss, 2008). These efforts may provide detailed information on some aspects, how to conduct the literature review (Glaser 1992), how to produce a saturated theory (Corbin and Strauss 2015), and also comes with some innovative possibilities (Walsh et al., 2015). Thus, since its academic inception in the seminal text in 1967

(Glaser and Strauss 1967), GT has been adopted largely over a long time as an approach to guide qualitative-dominated studies (Auerbach et al., 2006; Bryman, 2007). Yet, GT comes with its fair share of criticism. This can refer to specific critiques around the varying methodological positionings of GT, e.g. Glaser (1992), Strauss (1987), Corbin and Strauss (2008), or Charmaz (2014), but also general limitations related to qualitative approaches.

Saunders et al. (2019) explain that qualitative studies provide advanced understanding or develop a theory by investigating non-numeric data (words, images, and other similar material). Ketokivi and Mantere (2010) argue that the problem of inductive approaches, i.e., qualitative research, is considered a less scientific procedure as the derived theoretical conclusion from the qualitative reasoning process has not been tested. In contrast, a mixed-method design is likely to combine quantitative and qualitative elements and may enhance some weaknesses of qualitative research (Saunders et al., 2019). However, the literature does not articulate whether GT research can be conducted in a mixed-method way and adds further reliability to qualitative GT results. Thus, this paper will provide a mixed-method approach to reinforce the classic qualitative GT by using an empirical study of leadership development to illustrate how to demonstrate the mixed-method process. In particular, this study aims to conceptualise and explore a mixed-method GT process, including qualitative GT analysis, transforming qualitative findings into a quantitative data set, and then triangulating the qualitative results.

Literature Review

Grounded Theory Methodology

GT is a flexible qualitative method employed to develop theoretical patterns rooted in empirical research. The approach was first introduced in 1967 by Glaser and Strauss (Glaser & Strauss, 1967). In general, GT studies seek to develop theoretical constructs by categorizing concepts into an integrative story under a systematic process and key principles. By following Glaser's classical GT process, open-coding, constant comparison, theoretical sampling, and theoretical sensitivity are recognized as four core principles being applied. These characteristics are unique attributes of GT approaches that can differentiate GT research from other qualitative methods (Corbin & Strauss, 2008).

The first principle is open coding. Coding is a fundamental step in the qualitative analysis process that enables breaking down the data into meaningful concepts (Creswell, 2016). In Glaser's classical GT research, the open-coding procedure starts with non-preconceived concepts coding and results in a core category (Glaser, 1992). Open-coding is to identify all similar phrases and sentences through the line-by-line or word-by-word coding process and constantly compare the substantive phenomena in the data set. Subsequently, selective coding is the process where researchers use their theoretical sensitivity to identify the essential concepts from the outputs (all the repeat ideas) of the initial stage.

The second principle, constant comparison, is the analytic process that compares each piece of relevant data for similarities and differences and then develops the concepts (Corbin & Strauss, 2008). The constant comparative analysis techniques are inductive

processes that select the identified phenomena from the focused data through iteratively coding and recoding (Glaser & Strauss, 1967). Glaser states that all GT studies generate emergent concepts that are completed by constant woven comparison with many rigorous steps (Glaser, 2001).

Theoretical sampling is the third principle that chooses a sample to constantly investigate the phenomenon recognized in previous research steps (Lakshman, 2007). GT researchers employ theoretical sampling to develop and elaborate the emerging concepts or substantive theories when the previous research step does not result in promising concepts (Charmaz, 2014). The definition of theoretical sampling is compared to the selective sampling techniques that are normally employed to identify target populations and settings before data collection (Schatzman & Strauss, 1973). Glaser (1992) explicates that GT researchers decide what data to collect in the next stage to develop the emerging theory by collaborating data collection and coding (Glaser, 1992).

Finally, the fourth principle is theoretical sensitivity which is defined as the capability of understanding and conceptualizing phenomena into abstract terms. Glaser (1992) states that theoretical sensitivity is the critical ability that GT researchers should equip to understand the studied data and recognize the emergent concepts through constant comparing. Developing theoretical sensitivity will empower researchers to successfully convey the analytic process when pursuing theoretical insight (Charmaz, 2014). Extant studies have employed a qualitative GT approach in various contexts, such as healthcare (Auerbach et al., 2006; Sbaraini et al., 2011; Vinckx et al., 2018) and leadership (Gibson et al., 2018; Kan & Parry, 2004).

Data Transformation and Mixed-method Approach

Mixed-method research can be defined as a type of research that involves various combinations of qualitative and quantitative approaches, such as data collection, data analysis, and implication techniques (Johnson et al., 2007). By combining the exploration of participants' words with numbers, trends, and statistical results (qualitative and quantitative elements), mixed-method studies can provide a complete analysis of research problems, and findings can be reinforced (Creswell & Plano Clark, 2011). Most mixed-method studies are designed with both qualitative and quantitative data collection, and data transformation might be a supplement in mixed-method research (Teddlie & Tashakkori, 2009).

Transforming qualitative data refers to the process of assigning numerical (nominal or ordinal) values to qualitative data, such as open-ended responses of experience in word form (Sandelowski et al., 2011). Quantizing, one type of data transformation, is transforming qualitative data into quantitative data (Teddlie & Tashakkori, 2009). While transforming qualitative data or qualitative findings into a quantitative data set, researchers can converse qualitative information into quantitative data with their judgments about whether one specific concept (or theme) is present or absent in a data set, such as 1 (Present) Versus 0 (Absent) (Sandelowski et al., 2011). The extant research has involved data transformation strategies in the qualitative comparative analysis (one type of mixed-method study) (Basurto & Speer, 2012; De Block & Vis, 2019).

Utilizing transformed data has confirmed its convenience compared to collecting quantitative data in the field (Goyer et al., 2016; Jo Lamberti & Katzenmeyer, 1996). For example, Sandelowski and Barroso (2003) articulated how they quantified 93 qualitative

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results extracted from published and unpublished qualitative studies of HIV-positive women. The method of integrating qualitative results with further quantitizing data analysis can be considered as mixed-method research. Moreover, this study developed a usable and transparent protocol for combining health-related qualitative studies reports, and the summarized analysis offered an in-depth report on the substantive research focus (Sandelowski & Barroso, 2003). In addition, the techniques of quantitizing qualitative data have been employed in mixed-method studies. For example, a systematic literature review by Fakis et al. (2014) found that some extant studies had utilized quantifying qualitative data in broad contexts from psychology, health, education, sports, and social care research areas. Previous studies have shown that data transformation has been used to do some quantitative studies, and this technique can be used in mixed-method research. Thus, transforming GT qualitative findings into quantitative data and further investigating the significance of the qualitative conclusions is possible (Johnson et al., 2010; Shim et al., 2020). Yet, how grounded theory studies displayed a mixed-method approach within utilizing qualitative data is limited in the literature. Therefore, this study aims to develop a mixed-method GT approach by adopting data transformation and demonstrating the process within a leadership development study.

### Extending Grounded Theory to a Mixed-method Approach

This study aims to demonstrate how to extend the GT method from a dominant qualitative approach into a blended mixed-method study. As either qualitative or quantitative studies have inherited limitations, mixed methods research can enhance the interpretation of significant findings by including both qualitative and quantitative studies (Onwuegbuzie & Leech, 2004). For example, qualitative research can advance

understanding and extract the meaning of phenomena, whereas researcher prejudice and bias could limit research reliability. This is the rationale of this mixed-method study, which includes a qualitative GT approach, hypothesis generation and data transformation, and a quantitative stage.

Based on a leadership development study, this qualitative-driven mixed-method design follows the framework Grounded Theory--A Three-stage Mixed-method Approach. The platform integrates three stages that start with a qualitative GT approach and follows with data transformation and quantitative analysis. The themes and theoretical patterns derived from the GT stage are transformed into quantitative data. After that, the quantitative approach analyzes the transformed data and determines the significance of the causal relationships that emerged from the qualitative approach.

The traditional qualitative GT approach can ensure a qualitative study's reliability, such as twice-coding, theoretical sampling, and constant comparing (Auerbach & Silverstein, 2003). A qualitative data analysis software, such as QDAS-NVivo 12, can effectively facilitate GT research. Specifically, the Explore-Matrix coding function on NVivo can facilitate transforming each open-ended response into one quantitative observation. A later study illustrated how NVivo could facilitate to investigate of open-ended responses in qualitative research, such as a GT qualitative study (Feng & Behar-Horenstein, 2019). Thus, this qualitative-driven three-stage mixed-method approach is facilitated by QDAS NVivo (refer to **Figure 1**).

Figure 14. Grounded Theory – A Three-stage Mixed-method Approach
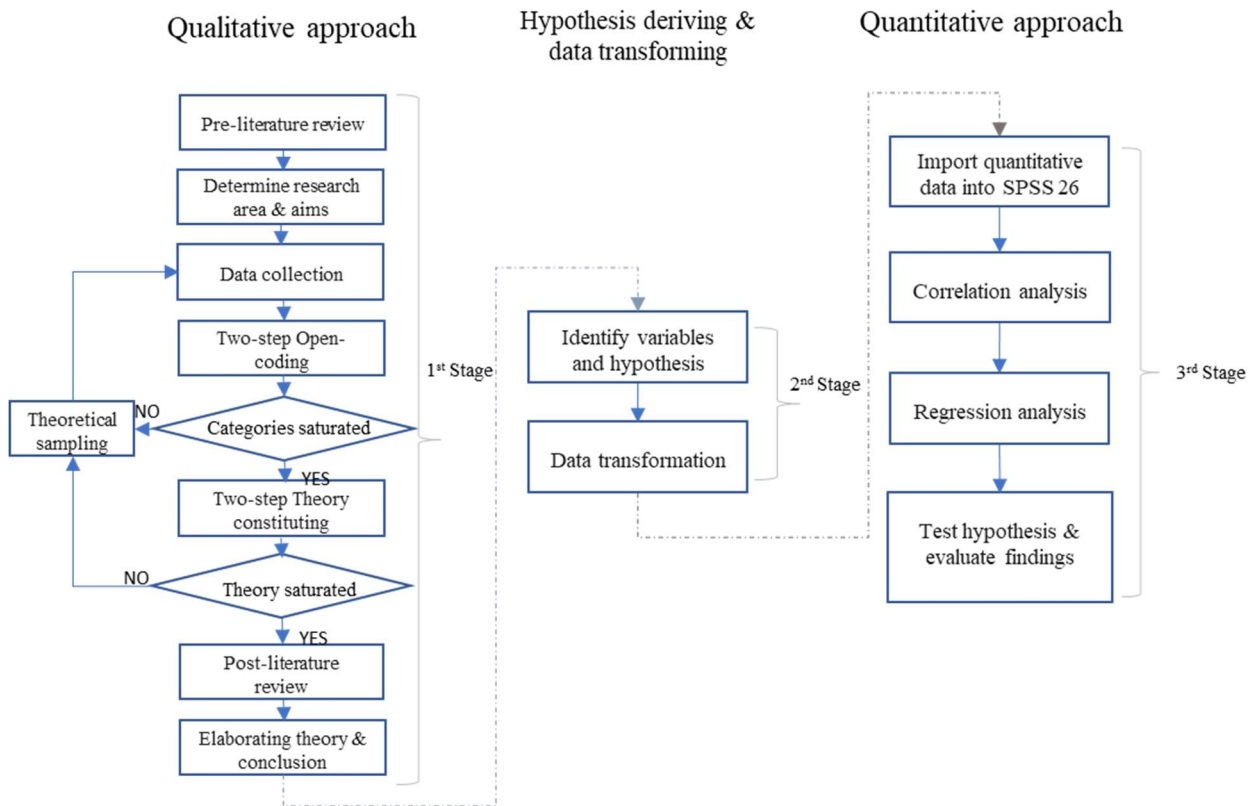
The first stage is the qualitative approach, which refers to the Three-phase Research

Framework (Yu & M Smith, 2021). Even though GT developed divergently, such as

Glaserian 's Classical GT (Glaser, 1992) and Charmaz's Constructivist (Charmaz, 2014),

GT research follows four core principles, i.e., open-coding, constant comparison,

theoretical sampling, and theoretical sensitivity (Corbin & Strauss, 2008). Yu and Smith

(2021) developed a three-phase research framework by adopting GT's four core

principles and innovative applications, which encourages future innovative GT

approaches, such as the current mixed-method GT application.

The second stage is data transformation, which has been used in previous mixed-

method designs (Teddlie & Tashakkori, 2009). Through data transformation, qualitative

findings of the first stage can be used to identify variables and hypotheses. Correspondingly, in the second stage, the emerged theoretical pattern with correlations can be converted into hypotheses. This step is crucial to make the possibility of utilizing the transformed data to do quantitative analysis. In particular, this stage is to export the GT qualitative results in NVivo 12 and import the transformed data into quantitative analysis software, such as SPSS. Using the Explore-Matrix-coding exploring tool of NVivo to transform qualitative results into quantitative data, the identified themes are located in columns, and open-ended responses are located in rows. The exploring result can be saved and exported into an Excel file. Afterward, the Excel file can be imported into SPSS 26 to conduct the third stage of quantitative analysis.

The third stage, including correlation and regression analysis, is the quantitative approach that analyzes the transformed data and tests the hypothesis generated from the first stage. Firstly, the correlation analysis in SPSS 26 tests the relationships between transformed variables, and the regression analysis can evaluate the significant level of hypotheses with the P-value of each correlation. Finally, the quantitative analysis results are integrated into the emergent substantive theory from the first qualitative stage. The qualitative and quantitative results may be augmented or inconsistent, which concludes the mixed-method approach.

Applying the Mixed-method GT Approach within a Leadership Development Study

The contemporary workplaces are dynamic and competitive due to digitalization, globalization, and increasing worldwide competition. Johansen (2012) characterized the accelerating disruptive world as one of volatility, uncertainty, complexity, and ambiguity (VUCA). In challenging work environments, organizations become increasingly demanding and stressful places, and dealing with challenges is crucial for leaders and has become an inevitable leadership responsibility (Sturm et al., 2017). As traditional leadership skills would not be enough to support leaders in the VUCA world, Johansen (2012) also explained that some new leadership skills, such as dealing with challenges or problem-solving ability, should be developed.

Extant studies reported that leaders might develop their problem-solving skills and positively affects job engagement and job satisfaction when experiencing various challenges (Mancini, 2019; Seery et al., 2010). Furthermore, Bandura's social learning theory (1977) explained that individuals might acquire problem-solving abilities through both self-practice and observing others. Bandura (1965) found that people could learn skills by observing and imitating others' behaviour and skills defined as vicarious learning. In particular, studies found that vicarious learning from ideal examples, e.g. role modelling, can benefit individuals or organizational performance (Brown et al., 2005; Grobler & Grobler, 2019; Presbitero & Teng-Calleja, 2019). By contrast, a recent study by Quinn et al.'s (2020) found that individuals' failure experiences had a stronger learning motivation impact on others than successful experiences. Motivation to learn, defined as a specific desire to learn (Noe, 1986), can be used to predict learning results

directly or through evoked desire to use training at work (Noe & Schmitt, 1986).

However, how challenging experiences could be antecedents of motivation to learn and,

the explanation of the underlying vicarious learning mechanism, why failure stories have

a higher impact on motivation to learn is limited in the literature.

Thus, this study investigates how trainers' leadership experiences, including their

personal life challenges and workplace challenges, can help participant leaders involved

in an LD program develop capabilities for dealing with challenges. This qualitative study,

via the GT approach, found that, by observing others' resilient responses toward

challenges, such as resilient attitudes and behaviour, leaders could be strongly motivated

to take on comparable attitudes and behaviour toward their challenges and become more

confident to confront such challenges in consequence. Through data transformation and

quantitative analysis, leadership challenges and resilient responses may significantly

impact other leaders' motivation to learn and improve their leadership awareness and

leadership skills. The following will demonstrate how the three-stage mixed-method GT

approach is conducted within a leadership development (LD) program.

Qualitative Data and Qualitative GT Approach

This study utilizes a qualitative data set selected from an Australian leadership

development program to bring the theoretical concept of developing leaders for

challenging situations. 42 Australian leaders participated in the LD program that involved

various activities, including 16 guest leaders (trainers) who hosted in-class seminars and

leadership panels. After each session, participants sent anonymous reflective answers to

open-ended questions. The qualitative approach investigated 1162 reflective responses

and found that, by vicariously learning from guest speakers' challenging experiences and

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their resilient responses, participant leaders can improve their leadership capabilities, including leadership awareness, self-efficacy, and multiple-leadership skills. Leadership scholars explained that leadership awareness and self-efficacy are essential abilities for managers and leaders to develop (Caldwell & Hayes, 2016; Northouse, 2015; Yukl, 2010). Thus, this finding supports that enhancing leaders' awareness and self-efficacy can indicate the positive results of an LD program. In addition, this study discloses motivators, factors that inspire participants to learn, as motivation to learn may predict an LD program's effectiveness.

These emergent results derived from the qualitative GT approach are articulated as two themes: (1) Building-up leadership capabilities and (2) Motivating factors of LD (**Table 1**). Below are descriptions of detailed results for each theme and sub-themes.

Table 12. Emergent Themes and Sub-themes

	Themes and Sub-themes
1	**Building-up leadership capabilities** (of participants)
	Leadership self-efficacy
	Leadership skills and knowledge (leadership competence)
	Leadership awareness
2	**Motivating factors** (of trainers)
	Work challenges & resilient responses
	Multiple-leadership competence
	Personal challenges

The first finding of 'Building-up leadership capabilities' is constituted with three sub-themes: improvement of leadership self-efficacy, leadership skills, and leadership awareness. One example is quoted: *I am more confident but with greater empathy and*

ability to pass on my experiences to others to grow through the organization (Participant 5, final survey).

The second sub-theme explains that participant leaders acquired leadership skills and knowledge either through learning from other leaders' successful experiences or their experience in dealing with challenges. One participant described it: *The leadership program has expanded my knowledge of the different types of leaders and leadership styles (Participant 2, final survey).*

Thirdly, one participant reflected he/she improved leadership awareness and quoted as: *The experiences have made me think about who I am, where I want to be, as well as how to position myself to get there. It made me realize that for me, how it feels is the difference between good and great (Participant 3, final survey).*

These three emergent sub-themes showed that participants could build-up their leadership capabilities by vicariously learning from guest speakers' experiences. This finding shows that vicarious learning can improve participants' leadership awareness and leadership self-efficacy, which may address the call in literature to enhance leadership awareness and self-efficacy, and develop leaders' problem-solving (Kragt & Day, 2020; Volini et al., 2019).

The second finding is that three identified motivation factors observed in trainer leaders can motivate participant leaders to learn, e.g. trainers' work challenges and their resilient responses, multiple-leadership competence, and personal challenges. Participants reflected that they were inspired by guest speakers when guest speakers shared challenging personal experiences, work challenges, their resilient responses, and

multiple-leadership skills and knowledge, such communication skills and strategic thinking. For example, leaders could be strongly motivated to learn from the shared leadership experiences of guest leaders. An example is quoted:

Listening to other leaders' stories about their career path, their challenges, and what they deemed was important to their leadership really helped to hone a sense of what good leadership means to me (Participant 31 reflects in the final survey).

The second sub-theme reflected that trainer leaders' multiple-leadership competence inspired participant leaders to consider how to position themselves in challenging workplaces and make behavioral changes. One example is noted below:

There have been a number of management-style wisdom from both guest speakers and cohort members, which I have taken back to use within my own team, and I have also flagged a few opportunities for consideration in strategic areas of our business (Participant 1 reflects in the final survey).

The third motivator is recognized as trainers' personal challenges. For example, when guest speakers share challenging personal experiences (e.g. family disaster), participants may recognize these responses as resilient responses, and they may strongly are motivated to learn the capabilities of dealing with challenges. One example of the participant's reflection on shared challenging personal experiences of a guest leader who is quoted:

She showed strength and courage; she shared her innermost thoughts of how she survived such an ordeal for herself and her whole family.(Participant 9, Guest speaker A).

As mentioned above, the first stage of the qualitative approach identifies three leadership development motivators and three sub-themes of leadership development improvement. These findings construct the vicarious learning model in leadership development: Building-up leadership through vicarious learning (see Figure 2).

Figure 15. Building-up Leadership Capabilities of Dealing with Challenges through Vicarious Learning
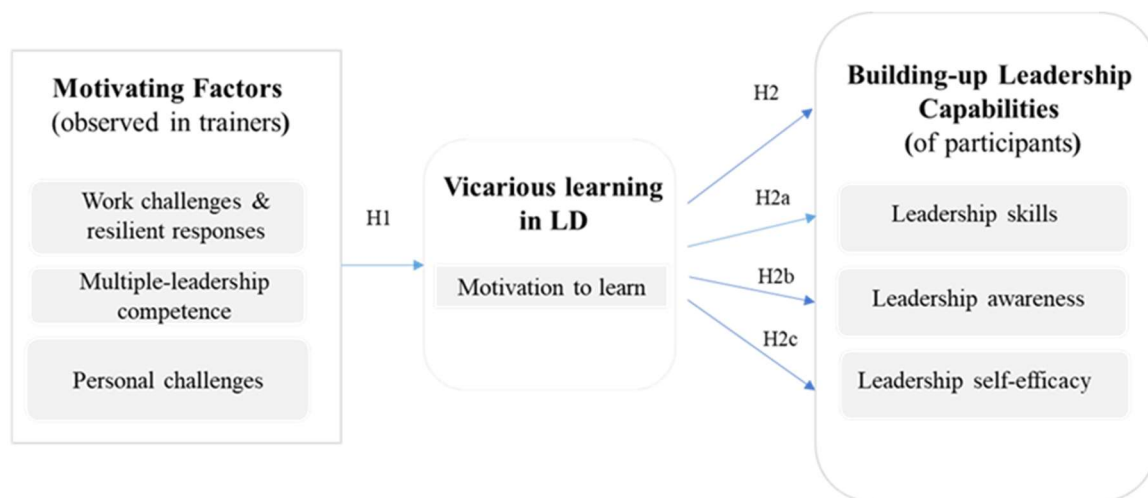
Hypothesis and Data Transformation

In the second stage of this mixed-method approach, the three motivators (challenging experience and resilient responses, multiple-leadership competence, and personal challenges) and three types of leadership development (improvement of self-efficacy, leadership skills, and leadership awareness) are defined as dependent and independent variables, respectively. Subsequently, two hypotheses are identified.

Hypothesis 1: trainers' (guest leaders in this study) challenging experiences and their resilient responses (H1a), multiple-leadership competence (H1b), and challenging

personal experiences (H1c) are motivating factors that can significantly improve

leadership development results.

Hypothesis 2: participants' (trainee leaders in this study) leadership capabilities,

including leadership skills and knowledge (H2a), leadership awareness (H2b), and

leadership self-efficacy (H2c), can be significantly improved through vicarious learning

from motivating factors.

The framework Building-up Leadership Capabilities of Dealing with Challenges

Through Vicarious Learning (**Figure 2**) indicates the independent and dependent

variables and causal relationships (or hypotheses), and the data transforming process is

based on this result that emerged within the qualitative GT approach in the first stage. For

example, if a participants' reflection includes one specific emergent theme, the variable's

value is 1. Otherwise, the value is transformed into 0. Through the Explore-Matrix coding

function on NVivo 12, the qualitative coding results are transformed into the quantitative

data set.

Quantitative Approach and Hypothesis Test

The quantitative analysis of the third stage is conducted on SSPS 26 in two steps,

correlation analysis, and regression analysis. By referring to the findings of the

qualitative approach at the first stage, this study defines the dependent variable:

leadership development results (LD results) and the independent variable: vicarious

learning motivators (Vicarious learning). LD results, the dependent variable, include

three indicators: self-efficacy, awareness, and leadership skills and knowledge. The

independent variable vicarious learning has three indicators: challenges and resilient

response, multiple leadership competence, and challenging personal experience. The

quantitative correlation analysis uses Spearman's rho to test the relationships between indicators since transformed data is not assumed to be normally distributed (Pallant, 2016). The significant relationship between LD results and motivation factors, shown in **Table 2**, encourages further regression analysis to reveal the causal relationships.

Table 2. Correlationships Matrix between Leadership Development Results and Vicarious Learning Motivators

	LD results (trainee)			Motivators (trainer)	
	Leadership self-efficacy	Leadership awareness	Multiple-Leadership competence	Leadership challenges & resilient response	Personal challenges
LD results (of trainee leader)					
Leadership self-efficacy					
Leadership awareness	0.051				
Leadership competence	0.019	.423**			
Motivators (of trainer leader)					
Leadership challenges &resilient response	-0.024	.312**	.281**		
Personal challenges	-0.013	-0.017	-0.045	.599**	
Multiple-leadership competence	0.036	-0.057	-.100**	-.212**	-.149**

Note: n=1162; two-tailed; *: $p < .05$; **: $p < .01$, and ***: $p < .001$; LD: Leadership development.

The regression analysis tests five causal relationships between LD results of trainee leaders, its indicators (leadership self-efficacy, leadership awareness, and leadership skills &knowledge), and three vicarious learning motivation factors (trainer leaders). The regression results can test the hypothesis (**Table 3**).

Table 13. Regression Results- Standardized Coefficients

	Model 1	Model 2	Model 3	Model 4	Model 5
Motivators	Sum of LD result	Sum of LD result	Leadership awareness	Leadership skills	Leadership self-efficacy
(Constant)	.533**	.522**	.235**	.254**	0.033
Work challenges & resilient response		.446**	.396**	.375**	-0.021
Personal challenges		0.015	0.02	-0.006	-0.005
Multiple-leadership competence		-0.08	-0.005	-0.056	0.029
Sum of motivators	.269**				

Note: n=1162; two-tailed; *: p < .05; **: p < .01, and ***: p < .001; LD: Leadership development.

Regression results show that the sum of three recognized motivators can significantly impact trainee leaders' LD results (r=.269, p<.01). Results of Model 1 and Model 2 test Hypothesis 1 and H1a. In particular, trainer leaders' leadership challenges and their resilient responses (H1a) can significantly impact on LD results. By contrast, trainer leaders' personal challenges (H1b) and their multiple-leadership competence (H1c) do not significantly impact the sum of trainee leaders' LD results. In addition, Models 3, Model 4, and Model 5 test Hypothesis 2. These regression results show that leadership skills and knowledge (competence) of trainee leaders (participants) (H2a) (r=.375, p<.01) and leadership awareness (H2b) (r=.396, p<.01) can be significantly improved by identified motivators. In comparison, leadership self-efficacy (H2c) does not been significantly improved.

Discussion

The GT method has been employed in a great deal of qualitative studies. This study demonstrates how to extend the classic qualitative broader into a blended mixed-method

study by employing data transformation and quantitative analysis. Mixed method research is constantly evolving and focuses more on coherent integration as an essential feature of the design by integrating data analysis and interpretation (Yin, 2016). However, a critical challenge of effectively integrating the findings has not been addressed (Bazeley, 2018; Bryman, 2007). As a novel attempt, this design of the 3-stage mixed-method approach offers a unique blended integration demonstrated in four dimensions, including integrating qualitative and quantitative research procedures, analysis techniques, data, and findings.

Most GT approaches are inductively dominated to identify the possibility and discover theoretical patterns. By contrast, quantitative analysis is some extent of deductive study by determining the identified theoretical structure into variables and testing the significance of the causal relationships. In this study, the first stage (qualitative GT approaches) results in themes and theoretical patterns. The second stage is transforming the qualitative results into quantitative data, which becomes the input data of the third phase. Precisely, themes are correspondingly converted to indicators, and the theoretical pattern is transformed into hypotheses, respectively. In the third phase, the quantitative analysis tests the statistical reliability and determines the significance of causal relationships. Thus, this three-stage mixed-method shows that an original qualitative data set can support a mixed-method GT approach.

Furthermore, in this mixed-method study approach, the results of the qualitative stage lead to the quantitative approach. GT has been broadly employed in qualitative research to develop theories or hypotheses by following a systematic inductive analysis procedure (Teddlie & Tashakkori, 2009). This feature of GT has been recognized as an

essential characteristic of a mixed-method study and has been utilized within a mixed-method design of GT (MM-GT) (Johson et al., 2010). MM-GT connects theory generation with theory testing in a mixed-method study (Guetterman et al., 2019). Yet, there re limited explanation and evidence for using the GT findings as a data source for the quantitative stage (Shim et al., 2020). This study expands the advantages of GT approaches into a mixed-method approach and demonstrates the process within an LD study. For example, one finding of the qualitative phase is leadership challenging experiences and resilient responses can improve others' leadership skills. By integrating the qualitative and quantitative results, the mixed-method approach can enhance the reliability of the GT that emerged from the qualitative stage. To summarize, this study demonstrates a blended mixed-method approach of a GT study within a leadership development study. This may provide a practical contribution to GT and expand techniques and skills of mixed-method research.

Research Limitations and Future Research Recommendations

Although this research provides some valuable findings, it also comes with certain limitations. As a group of inductive approaches, the current research presents only initial results, and this requires further empirical investigation to test the generalizability of the findings. One limitation is that the data were collected from a leadership program in Australia with a small sample size (N=42). Future studies may investigate how vicarious learning of leadership resilience impacts leadership development across various cultural contexts and different sample sizes to explore whether research results are transferable to other countries and/or industrial groups. Moreover, future studies could adopt quantitative or mixed methods in an attempt to generalize findings. In addition, the

techniques of using data transformation and subsequent quantitative data analysis within a mixed-method GT approach are novel practices. This may encourage more qualitative studies involving follow-up data transformation within a mixed-method approach.

Conclusion

To conclude, this study demonstrates how to expand GT research into a mixed-method approach and conduct a blended mixed-method study within a leadership development study. By following this three-stage approach, this leadership development study conducts in three stages: (1) qualitative stage, (2) hypothesis generation and data transformation, and (3) quantitative approach and hypothesis test. For the purposes of the example provided, the qualitative stage found three motivating factors (observed in trainers), e.g. work challenges and resilient responses (resilient attitudes and behaviour), can strongly motivate leaders (particpants) to build-up their leadership capabilities, including leadership skills and knowledge, leadership awareness, and leadership self-efficacy. The second and third stages test hypotheses derived from the qualitative findings at the first stage. This study broadens the GT focus from a dominant qualitative approach into a mixed-method approach. The three-stage design may maximize the coherent integration by multi-mixes of qualitative and quantitative features, including data, research procedures, and results which may encourage other innovative GT or mixed-method applications. The novel practices with data transformation and subsequent regression analysis techniques may assist other researchers in their studies.

The paper will bring up-to-date discussions around psychological resilience and leadership, as well as apply the trait of leadership resilience across a wider scope of leadership approaches. A paradoxical lens is subsequently applied and this includes ambidextrous leadership as a theory of focus.

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