

**A SOCIAL COGNITIVE PERSPECTIVE OF LEADERSHIP:
EXPLORING THE IMPACT OF A SCENARIO-BASED LEADERSHIP
TRAINING INTERVENTION WITHIN HEALTHCARE SETTINGS**

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ABSTRACT

This thesis explores and tests an integrated, social cognitive approach to understanding leadership and developing leaders within healthcare organisations in the United Kingdom. Two studies were implemented; the first involved an assessment of the personal and environmental components of leaders and their followers, as well as the self-reported and follower-rated behaviour of leaders in eight National Health Service (NHS) organisations. The second study involved working with 15 organisations across the NHS to implement and evaluate a scenario-based training intervention which promotes a social cognitive perspective of leadership and draws on the principles of adult learning. The impact of this intervention was examined using a longitudinal design and factors influencing the transfer of leader self-efficacy were explored.

For both studies, the suitability of measures was assessed and validated using confirmatory factor analysis. Specific analytic techniques were used within each study based on the study objectives. In study I, mediation analyses were conducted using Structural Equation Modelling (SEM) to explore the interaction between personal, environmental and behavioural components within leaders, as well as exploring how these components interact in the relationship between the leader and their followers. The results revealed a significant mediational role of two key aspects of the perceived environment (control and social resources) in the relationship between leaders' behaviour and followers' personal components and attitudes towards work. The mediational role of leader behaviour in the relationship between leaders' personal components and their perceived environment was not supported.

Study II used a Multivariate Analysis of Variance (MANOVA) with a repeated measures design to explore the impact of training over time on leaders' awareness of what constitutes 'supportive' leadership behaviour and their self-efficacy judgements. Data was collected immediately prior to

attendance at the training intervention, immediately after training and 6 months post-training.

The results revealed a significant increase in leaders' self-efficacy post-training in relation to four common situations that leaders within healthcare settings face. The longitudinal analysis also showed that leaders' self-efficacy beliefs were maintained 6 months post-training. In addition, an assessment of leaders' behavioural awareness indicated that democratic leadership behaviours and behaviours relating to greater self/other awareness were seen to be significantly more supportive immediately after training compared to pre-training (baseline) levels. There were no significant differences in leaders' awareness of the supportiveness of performance and target-driven behaviours immediately after the training. However, the longitudinal analysis revealed that leaders' increased awareness of the supportiveness of these behaviours was not sustained over time. Instead, these behaviours were seen to be significantly less supportive 6 months after training compared to both the immediate post-training and pre-training levels of awareness.

Finally, a Hierarchical Multiple Linear Regression (HMLR) analysis revealed that the transfer of leaders' self-efficacy beliefs (as assessed 6 months post-training) was significantly predicted by leaders' pre-training (baseline) and post-training self-efficacy levels, as well as leaders' age. Contrary to what was expected, application of their learning, post-training support from colleagues and supervisors and the interaction between support and the application of learning did not predict leaders' self-efficacy 6 months after training.

This thesis concludes by discussing the implications for leadership research and leadership training within healthcare organisations.

PREFACE

The study of leadership has received a great deal of attention over recent years. There is growing recognition of the influence that leaders can have on both individual and organisational outcomes (Avolio & Gardner, 2005; Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Gilmartin & D'Aunno, 2007; Kuoppala, Lamminpää, Liira, & Vainio, 2008; Nielsen & Munir, 2009; Sivanathan, Arnold, Turner, & Barling, 2004). However, relatively few attempts have been made to bridge the gap between theory and practice by applying leadership theory to organisations (Yukl, 2010). There is a noticeable lack of systematic empirical research within healthcare organisations even though the NHS is the UK's largest employer (Gilmartin & D'Aunno, 2007). Where attempts have been made to apply leadership theory to healthcare organisations (e.g. Blackler & Kennedy, 2004; Hartley & Hinksman, 2003), small sample sizes have limited the generalisability and interpretation of the findings, and there is a lack of information about the evaluation process. Furthermore, a review of the research into leadership in healthcare settings carried out by Gilmartin and D'Aunno (2007) showed a noticeable absence of empirical research relating to authentic leadership theory, despite this being one of the most widely cited theories over recent years.

Reviews and inquiries have identified that effective leadership plays a crucial role in promoting better patient care across the NHS, and have referred to the current 'crisis' in leadership across NHS Trusts (Francis Report, 2013; Keogh Report, 2013; The King's Fund, 2011). Leaders within healthcare settings experience some of the highest demands which are perceived to be conflicting in nature (NHS staff survey results, 2016); they are repeatedly tasked with improving quality at the same time as reducing costs. Subsequently, addressing leadership within this population should be a primary concern of practitioners and scholars, and may help to promote healthier and more productive societies (Sachs, 2005). However, much uncertainty remains as to whether leadership is in fact something that can be developed. The effectiveness of leadership

training interventions is largely unknown, even though the NHS invests huge amounts of money training staff.

Much of this problem stems from the fact that there is little agreement as to what makes for an effective leader. Early research into leadership tended to explore task-oriented and relations-oriented leadership behaviours as two distinct 'styles' (e.g. Bass & Stogdill, 1990; Fiedler, 1964, 1971, 1978). This can lead the reader to question whether being a supportive (relations-oriented) leader is necessarily the same as being an effective, task-oriented leader. However, both styles of leadership impact on leader effectiveness in different ways; relations-oriented leadership has been shown to have a positive impact on follower attitudes towards the workplace, whereas task-focused leadership has been linked to greater leadership performance (Judge, Piccolo, & Ilies, 2004). Similarly, Yukl (1999) highlights that attempts to draw comparisons between the effectiveness of supportive and autocratic leadership styles are flawed. This two-factor conception of leadership does not consider the complexity of the process of leadership; to be effective, a leader will necessarily need to adopt a range of approaches depending on the situation and environment (Vroom & Jago, 1988).

In addition, early research encouraged leadership to be viewed as an entity or an individual trait that cannot necessarily be developed (Galton, 1869; Gibb, 1947; Jenkins, 1947; Stogdill, 1948). This conceptualisation of leadership has, over time, created a romance with leadership and a focus on 'heroic' individual leaders, with little consideration of the leader-follower interactions and context (Gilmartin & D'Aunno, 2007), or the shared nature of leadership (Avolio, Walumbwa, & Weber, 2009a). This perspective of leadership is still prevalent even though researchers have identified the role of leader cognitions (Day & Sin, 2011) and the social context (Dinh, Lord, Gardner, Meuser, Liden, & Hu, 2014). Alimo-Metcalfe and Lawler (2001) warned that too many leadership development programmes are still based on 'great man' heroic leadership theories and may consciously or unconsciously promote this approach to leadership amongst the training participants.

Through this research, the view that leadership is an entity is challenged. This research explores a more dynamic process of leadership; where the actions and behaviours of the leader will influence their followers. Through applying social cognitive theory (Bandura, 1986) as a framework for understanding leadership, the first study within this thesis seeks to demonstrate the interaction between personal (cognitive), environmental and behavioural components (determinants) as well as the social dynamics of leadership.

Specifically, study I of this thesis will address the following research questions:

- Research question 1: Does leader behaviour help to explain the relationship between leaders' personal components and their perceptions of the work environment?
- Research question 2: Do perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes?

The second study of this thesis comprises an evaluation of a scenario-based leadership training intervention. Specifically, the intervention promotes a social cognitive perspective of leadership, and draws on Bandura's (1977a, 1986) self-efficacy theory by assessing this as a key evaluation criterion. This research aims to challenge the view that leadership is a fixed entity by demonstrating that leaders' efficacy judgements in dealing with common work-related leadership scenarios and their awareness of the supportiveness of a range of leadership behaviours can be developed through a one-day intervention.

The training intervention utilises short video-based scenarios of common 'problems' that leaders within healthcare settings face (e.g. managing change, dealing with sickness absence), and is designed in a way that aims to draw on the principles of experiential learning and promote the transfer of training. Through evaluating this training intervention, this research provides a unique

opportunity to assess the impact of leadership training within the NHS. In addition, the longitudinal nature of this study means that it is possible to test whether any impacts of the training can be sustained over time, as well as establishing some of the factors that might influence the transfer of training.

Specifically, the following research questions will be addressed as part of study II:

- Research question 1: Can leaders be trained to have greater awareness of the supportiveness of different behaviours?
- Research question 2: Does leaders' self-efficacy to deal with common leadership scenarios change following attendance at a scenario-based leadership training intervention?
- Research question 3: What are the predictors of the transfer of training?

This research has the potential to achieve many beneficial impacts across different domains. From an academic point of view, it provides an opportunity for the application of leadership theory within real-world settings, and will help to advance our understanding of leadership as a social cognitive process. Using longitudinal evaluation methods, this research will help to establish whether leader self-efficacy and awareness of supportive leadership behaviours can be developed and sustained over time following a training intervention, and will help to advance our understanding of the nature of effective leadership training. At the social level, leaders who have greater awareness of the supportiveness of behaviours and their impact, and who have higher expectations of personal efficacy are likely to see positive impacts in their workforce. Through their interactions with followers, leaders may help to promote improved employee well-being, reduce intentions to quit and ultimately encourage more positive attitudes towards the job and a more committed workforce. The economic impacts may include enhanced organisational performance and productivity; helping healthcare organisations to deliver better patient care. In addition, there may be financial cost savings

associated with a happier, healthier workforce (e.g. through reduced turnover and sickness absence). This research will also help to inform the content and evaluation of leadership training interventions within healthcare settings and promote a greater return on training investment.

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CHAPTER ONE: LEADERSHIP WITHIN ORGANISATIONS

1 Overview

In this chapter, a critical review of the current state of the leadership literature and theory is provided, with an initial focus on justifying the need to explore leadership within the target research population of the healthcare sector. An integrated approach to understanding leadership is outlined through the application of a social cognitive framework. Specific research questions are identified and outlined.

1.1 Crisis of leadership in healthcare settings

Many organisations have experienced a significant degree of change over recent years; the development of information technology and process of globalisation means that organisations and employees must continuously adapt their approach to suit the global marketplace. Furthermore, restructuring and downsizing have resulted in changing job roles and growing uncertainty for employees. A challenge faced by many organisations is the need to become more effective but with no extra resources or funding to do this (Stajkovic & Luthans, 1998). Therefore, organisations are increasingly focusing on the ways in which they can optimise their human resources. In particular, the changes and challenges within the NHS have been unprecedented (Storey & Holti, 2013). The Health and Social Care Act (Department of Health, 2012) introduced vast changes, including clinically led commissioning and an overall restructure. Furthermore, the unstable financial climate has meant that the NHS has faced increasing demands and fewer resources to meet them. This has “produced a critical leadership tipping point in the NHS” (Rose, 2015, p.45).

The NHS is a vital service; in England, it is estimated that 1 million patients are seen every 36 hours (NHS Confederation, November 2016). It is also one of the largest employers in the world. Therefore, the health and well-being of its employees, as well as the level of patient care provided understandably

attracts a great deal of attention from the media. Concerns about the current 'crisis' in leadership (Naylor, Dorrell, Everington, Lewis, Morgan, Serrant, & Stanton, 2015) and evidence of failures in leadership and management across the NHS have been the subject of several reviews over recent years (e.g. Francis Report, 2013; Keogh Report; 2013; The King's Fund, 2011). Stoller (2013) recognised that within the healthcare sector, there has been a tendency for individuals to progress into leadership roles based on clinical or academic skills, and whilst these may be desirable, they do not necessarily make for a good leader. There has arguably never been a more crucial time for the NHS to have effective leadership, and the NHS plan for reform demonstrates the importance assigned to leaders in bringing about positive change (Department of Health, 2000; Storey & Holti, 2013).

Researchers recognise that leadership is critical during times of change (Conger, 1994). Over recent years, the NHS has become increasingly characterised by complex organisations which are challenged financially, whilst at the same time being under pressure to improve quality. Leadership plays an increasingly important role in helping to motivate and engage staff. There has been a shift from traditional command and control, or heroic styles of leadership to a focus on understanding the dynamic relationship between leaders and their followers and shared leadership approaches (The King's Fund, 2011). Essentially, the NHS is keen to develop a more supportive style of leadership; where there is a positive relationship between the leader and their followers, characterised by mutual trust and respect. This subsequently becomes a resource for the organisation and strengthens its capability to withstand changes (Day & Lubitsh, 2012; Tamkin, Pearson, Hirsh, & Constable, 2010).

The changing style of leadership may, in part, be a reaction to the scandals of whistle-blowers. In addition, supportive styles of leadership have been widely recognised as playing a fundamental role in helping organisations to perform optimally, particularly during periods of change and uncertainty (Coyle-Shapiro & Kessler, 2000; Sparks, Faragher, & Cooper, 2001). Recent

reviews across healthcare settings have identified how effective and supportive leadership can enhance organisational performance outcomes, as well as improve staff and patient health and well-being (Francis Report, 2013; Keogh Report, 2013; The Commission on Dignity in Care for Older People, 2012; The King's Fund, 2011; West, Dawson, Admasachew, & Topakas, 2011). Subsequently there has been a strong drive for leadership training across healthcare organisations. A report published by The King's Fund (2011) stipulated that; "leadership development must be a priority for every NHS organisation" (p.6). This was echoed more recently by Ham, Berwick and Dixon (2016) in their strategy for action in the NHS. They stated that; "high-performing healthcare organisations see quality improvement and leadership development as two sides of the same coin – thoroughly connected and synergistic" (p.21).

Year on year, organisations invest a huge amount of money into development and training with the belief that their investment will help to optimise their current assets and ultimately give them a competitive advantage over other organisations (London & Moore, 1999). Whilst competition is not necessarily a priority for the healthcare sector, receiving appropriate leadership training arguably helps to ensure that staff are supported to provide the best possible patient care and in this sense, helps to increase the resources available to meet the growing demands. However, leadership interventions are unlikely to be successful within the NHS if they do not consider the unique context and complexity of the working environment and the type of leadership required (McCallin, 2003). Leadership cannot be fully understood in isolation from the context that it exists in (Biggart & Hamilton, 1987) and the NHS presents a unique contextual challenge because of the increasing demands placed on it, combined with its size, diversity and challenging financial circumstances.

Existing reviews have identified that research on leadership training within healthcare settings has been victim to poor study designs including inadequate sample sizes, a lack of reliable and valid measures, and the absence

of systematic measurements of leadership (West, Armit, Loewenthal, Eckert, West, & Lee, 2015). In addition, leadership research has been subject to criticisms over the lack of agreed definition of the construct of leadership and the oversimplification of the leadership process (Bass & Stogdill, 1990; Hackman & Wageman, 2007; Shamir & Eilam, 2005). One of the challenges for leadership development is making sense of the various definitions, models and theories of leadership. This was previously highlighted by Stogdill (1974) who commented; “there are almost as many definitions of leadership as there are persons who have attempted to define the concept” (p.259). Arguably, this remains an issue within the leadership literature today. Trying to provide a single definition of leadership is a challenge beyond the remit of most research papers (Kelloway & Barling, 2010). It could be argued that if researchers clearly define leadership within the context of their specific research, then the lack of a single definition becomes less problematic. However, this does suggest the need to be cautious in generalising findings from leadership research and highlights the need for further leadership research that is specifically focused within healthcare organisations.

A further conceptual challenge is the ongoing debate about whether leadership and management should be studied as distinct fields of research. The King’s Fund (2011) report recognises that it is erroneous to try to distinguish between leadership, management and administration within the NHS; it argues that they are interdependent and cannot exist without each other. The debate as to whether there is a difference between a ‘leader’ and a ‘manager’ is also found within the general research literature (House & Aditya, 1997; Kotter, 1990; Yukl, 2010). Traditionally, it was argued that a leader is different to a manager in the way they motivate people; a leader must inspire, encourage, influence, harness people’s passions and can ultimately change the way that an individual perceives the workplace through the strong relationships they build with their followers. A manager on the other hand may have to do some of these things, but their role is much more about coordination and day to day management of people and problem solving

(Zaleznik, 1992). However, this can encourage the view that unless you are formally classified as belonging to a position of leadership you do not need to behave in a leader-like way and vice-versa. This view is restrictive, as leadership is a process of social influence (Yukl, 2010), and in this sense, it is not limited to those who hold formal leadership roles. However, it is recognised that formally appointed leaders are in a better position to act as role models (Kelloway & Barling, 2010).

Researchers are now recognising that separating leaders from managers is unnecessary, dangerous and “encourages a disconnected style” (Gosling & Mintzberg, 2003, p.1). Kotter (1997) highlights that within modern organisations, managers need to provide direction and vision, and in this sense the boundaries and distinction between leaders and managers becomes blurred. Regardless of the differences, it is now widely acknowledged that organisations need a mixture of leadership and management qualities, and that they should be considered complementary rather than competing (Kotter, 1990). Astin and Astin (1996) acknowledged that “a leader is not necessarily a person who holds some formal position of leadership” (p.16) and emphasise that anyone can be a potential leader. Therefore, the distinction between leaders and managers becomes largely irrelevant. The order and control that is typically associated with managers is important, but cannot be considered in isolation from the creativity and passion that leaders foster. Many studies of leadership now accept that results apply equally to leaders and managers (Bedian & Hunt, 2006) and the terms are often used interchangeably. For this research, the distinction between leaders and managers is not made. The term ‘leader’ is predominantly used within this research, although it is recognised that some leaders may formally hold managerial roles.

1.2 A review of existing theories and models of leadership

The purpose of this thesis is not to explore in depth existing theory of leadership; the brief overview provided here serves to highlight the complexity and number of models and approaches to leadership, and the shift in the way

in which leadership is understood. Recent approaches to leadership have acknowledged that traditional directive forms of leadership; where the leader instructs their followers on what to do and how to perform tasks may no longer be effective in the modern workplace. Leadership is now considered to be less about coercion and control over others, and more about inspiring and motivating them into action (Bass & Stogdill, 1990; Yukl, 2010). Leaders build relationships with their followers and carry individuals with them. Researchers and practitioners are coming to the same conclusion that leadership cannot exist without followership; an individual cannot insist on being a leader but instead this role is given to them by the follower. In this sense, leadership is very much a social process, and the context and environment within which the leader operates has also been recognised as being an important influencing factor for leader effectiveness.

A simplified overview of the evolution of leadership theory is outlined in Figure 1.1 and will be discussed in more detail next.

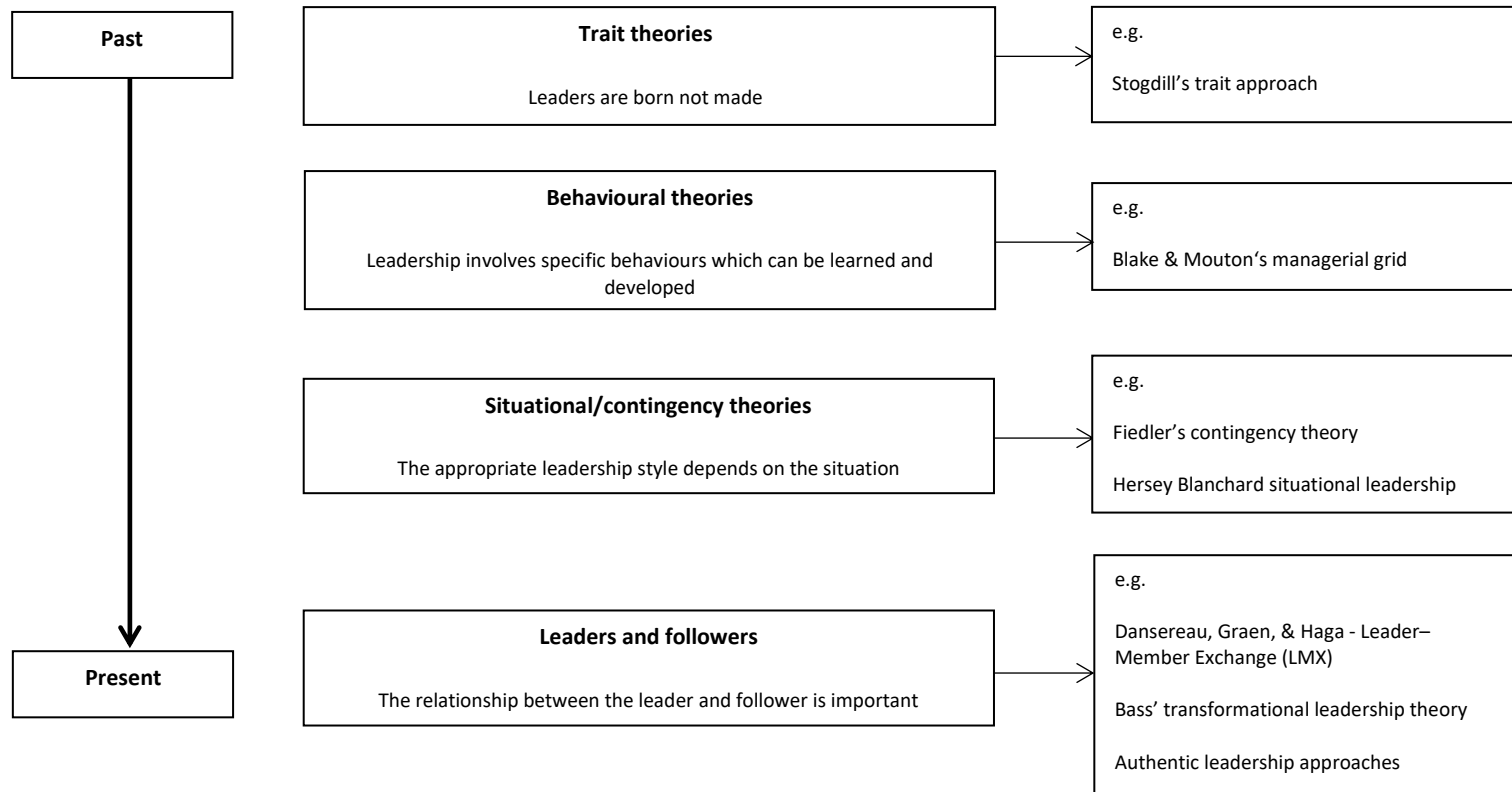


Figure 1.1: Evolution of leadership theories

1.2.1 Trait theories

Early research was largely atheoretical and focused solely on the leader and their individual characteristics (House & Aditya, 1997). This includes trait theories of leadership which tried to establish universal traits of leaders, and implied that leadership was something that the individual was born with, as opposed to something that could be developed (Galton, 1869; Gibb, 1947; Jenkins, 1947; Stogdill, 1948). Research by Stogdill (1974) identified several traits and skills which they considered to be critical for successful leadership, including; assertiveness, adaptability, decisiveness, intelligence, as well as being organised and persuasive. However, leadership theory has developed a great deal over recent years and early trait approaches have largely been discredited due to the poor operationalisation of traits and limited validity of the measures used (House & Aditya, 1997). Although the right mix of traits may play a role in successful leadership, research suggests that the leader's traits are more likely to influence their behaviour when the situation allows for this; otherwise the expressions of traits are suppressed (House & Aditya, 1997). There is now a shift to more theoretical approaches to leadership. Recent theories challenge the simplistic and limited trait view of leadership and recognise that successful leadership is more complex than having the 'right' traits or characteristics. Whilst certain traits may be desirable, successful leadership is necessarily about the actions and behaviour of a leader (Kirkpatrick & Locke, 1991; Stogdill, 1948; Zaccaro, 2007).

1.2.2 Behavioural theories

The inconclusiveness of trait approaches of leadership resulted in a shift towards behavioural approaches; this new school of leadership took the emphasis away from the leader's qualities and focused on their actions and the impact. One of the first behavioural theories was Blake and Mouton's (1978) managerial grid. This theory identified distinct leadership styles or behavioural patterns based on the level of concern for the task and for the people and their needs. Those who score low on both these dimensions are ineffective, and their

leadership style is likely to contribute to the development of disorganised organisations. When a leader scores high on their level of concern for the task, but low on concern for the people they will demonstrate an authoritarian leadership approach with a primary focus on meeting targets and objectives. Whilst in the short-term this may result in greater productivity, in the long-term the lack of consideration for individual needs is likely to result in high levels of turnover (Blake & Mouton, 1978). A leader who has an equal balance of both dimensions (medium concern for task and people) will perform adequately, but their compromising style means that neither the organisation or employee needs are fully met. On the other hand, a strong focus on people can lead to self-motivated individuals who feel valued, but can potentially have a negative impact on task performance. The theory states that the best approach is for the leader to score high on their orientation towards both people and tasks (Blake & Mouton, 1978). In this situation, employees are satisfied and productivity levels are high; the leader is passionate about their work and their staff and is considered to adopt a team management style.

The managerial grid has practical use in helping managers to assess their own leadership style. However, one of the main criticisms of this approach is that like the earlier trait theories, the behavioural approach does not take into consideration the situation (Sadler, 1997). As a result, there have been inconsistencies between studies in terms of which leadership style was found to result in the best outcomes (Wright, 1996). In addition, a study which explored a managerial grid training programme using a pre-test, post-test design concluded that the training did not cause any real change in outcomes such as job satisfaction and leadership style, and changes that did occur were more likely to be attributed to other factors within the organisation (Keller, 1978). Keller's (1978) findings showed a decrease in satisfaction with leadership and overall satisfaction during the assessment period, which subsequently led to questions over the usefulness of the managerial grid as a theory of leadership and as an intervention. This may explain why this leadership theory has received relatively little attention in comparison to other

theories. Instead, there has been a shift to other leadership theories which consider the environment and the relationship between the leader and their followers.

1.2.3 Situational/contingency theories

As previously outlined, the early trait approaches to leadership implied that the traits a leader possesses will remain stable across situations (Funder, 2001). Similarly, behavioural approaches to leadership did not account for the fact that the most appropriate behaviour may be dependent on the specific situation and environment. To overcome these limitations, situational leadership theory (Hersey & Blanchard, 1993) was developed, which suggests that different styles of leadership are needed depending on the specific situation. This approach to leadership outlines four categories of leadership styles;

- telling (telling followers what to do and how to do it),
- selling (giving direction and getting followers on board),
- participating (shared decision making and a focus on relationships) and;
- delegating (giving followers greater responsibility).

The appropriate style is dependent on the readiness of those being led (Hersey & Blanchard, 1993). This will depend on the amount of task direction and social or emotional support a leader must provide and whether team members have the necessary skills, experience, knowledge, confidence, motivation and commitment to carry out a task. As employees begin to develop, leaders can reduce their levels of task-directed behaviour and increase relationship-oriented behaviours.

Similarly, contingency theories argue that the effectiveness of the leader is dependent upon how well their style fits the situation. According to the Least Preferred Co-worker (LPC) theory (Fiedler, 1964, 1971, 1978), leaders who rate their least preferred co-worker negatively are generally considered to be 'task-

oriented' (low LPC), concentrating on control and creating a structure, whereas those who give more positive ratings towards their least preferred co-worker are 'relations-oriented' (high LPC); where the focus is on building relationships. An effective leader will consider their relations with the group, the type of task they are working on and the amount of power they have over the group to diagnose what the situation calls for and assess if their style is an appropriate fit (Fiedler, 1964). The theory states that the leader's style is fixed and cannot be adapted to the situation. Therefore, if a leader is in an unfavourable situation for their style of leadership, the best solution would be to change the leader.

Whilst the LPC theory has been criticised for its assumption that leaders cannot be flexible in their approach, and its failure to acknowledge that leaders can shape their situation rather than just respond to it, it does address another important shift in the way that leadership is viewed. It is now widely acknowledged that there is not one single approach to being a good leader. Leadership is more complex than this and effective leadership will be influenced by psychological, environmental and team (social) components (Künzle, Kolbe, & Grote, 2010).

There is a growing body of research which identifies the role of perceived hope, self-efficacy, optimism and resilience as determinants of leader behaviour (Avolio et al., 2004; Luthans & Avolio, 2003). Although these personal or psychological determinants of leader behaviour are arguably more in line with the earlier individual or trait focused approaches to leadership, they are distinguished as states that can be developed (Luthans, Avolio, Avey, & Norman, 2007a).

Researchers have identified that experience, knowledge and training will also affect the leader's approach (Künzle et al., 2010). Similarly, the interplay between follower attitudes and skills may affect the leader's style; the level of direction required from the leader is likely to vary depending on the experience and skills of their followers (Künzle et al., 2010). The environment in which a leader operates will inevitably influence their leadership style and likewise,

their style of leadership will influence the environment they create. For example, a highly stressful, unfamiliar environment may require a more directive leader, who makes decisions and tells their followers what they must do. Subsequently this type of leadership reinforces the leader's authority and creates a more hierarchical structure within the team, whereby the leader has power over their followers (Wetzel, Kneebone, Woloshynowych, Moorthy, & Kidd, 2006). However, this authoritative style of leadership and the hierarchical structure it creates is likely to damage the relations between leaders and their followers if it is used as the predominant style of leadership. Subsequently, researchers shifted their focus to the leader-follower relationship and the important role this plays in helping leaders to have a greater level of influence through increased followership.

1.2.4 Leader-follower relationship

Within the literature, there are arguably two main fields of leadership theory; those which focus on the leader and those which are primarily focused on the relationships between the leader and the follower and the social dynamics at play (Howell & Hall-Merenda, 1999). Whilst much of the research focuses on the role of the individual leader, there is arguably a gap in the research focusing on the follower and the relationship they have with their leader (Nolan & Harty, 2001). Leader-Member Exchange (LMX) theory is one example of a theory which focuses on the social exchange relationships leaders have with each of their followers (Dansereau, Graen, & Haga, 1975). Ultimately, an individual cannot lead without followership (Day, 2012), and so understanding the dyadic relationship between the leader and their followers becomes necessary for understanding leadership (Kelloway & Barling, 2010; Yukl, 2010). LMX theory addressed the criticism of early leadership theory which focused primarily on the individual leader by taking into consideration the interaction between leaders, followers and the context in which they operate (Avolio, 2010; Graen & Uhl-Bien, 1995). The theory makes a distinction between a more transactional style of leadership which the leader uses with

the 'out-group' members of their team, and higher quality exchange relationships with those who form part of the leader's 'in-group'. This distinction has since been used within Bass and Avolio's (1990) full range leadership model, and describes two broad leadership styles. Transactional leadership is characterised by lower quality exchange relationships which are largely based on the formal employment contract, and where recognition or compensation for task performance are seen to come from the organisation rather than coming from the leader. This transactional leadership approach is focused on contingent reward and can result in a high level of emphasis being placed on financial and other material outcomes, and neglect of other meaningful performance indicators (Sarros & Santora, 2001). On the other hand, high quality exchange relationships are characterised by mutual trust, fairness and respect, which enables the leader to have a greater and more positive influence on their followers. Leader fairness has been associated with lower levels of depression, higher job satisfaction and greater levels of perceived control (Sparr & Sonnentag, 2008). In addition, a recent meta-analysis has provided evidence of the positive impact that high quality exchange relationships have on performance, as well as the mediating role of trust, empowerment and job satisfaction on the association between high quality exchange relationships and extra-role performance (Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). Research also suggests that high quality leader-member exchange relationships are associated with more open communication and greater levels of resources, whereas low quality relationships are associated with lower satisfaction and commitment (Gerstner & Day, 1997). However, the relationship between LMX and performance has been criticised for its unreliability (House & Aditya, 1997), and may be more applicable to a superior-subordinate dyadic relationship rather than specifically addressing the effect leaders have on followers. Researchers have also criticised LMX theory for being more descriptive than prescriptive (Yukl, 1989).

Despite these criticisms, the theory does highlight the importance of the relationship between leaders and their followers which is arguably overlooked

within other leadership theories. High quality leader-member exchange relationships have formed the basis of some of the more recent positive leadership theories, including transformational and authentic leadership theory. In this sense, LMX theory represented the start of an important development in leadership theory; it helped to shift the focus from the leader's behaviours and traits to the relationship between the leader and their followers and the outcomes (Graen & Uhl-Bien, 1995).

Recent research and leadership theory has incorporated the leader-follower relationship to establish some of the common behaviours that are important for effective leadership, as well as the impact that these behaviours have (Chiok Foong Loke, 2001; Einarsen, Aasland, & Skogstad, 2007; Wegge, Shemla, & Haslam, 2014; Yukl, Gordon, & Taber, 2002). Mintzberg (1998) states that the role leaders play in inspiring others is particularly important in modern knowledge-based organisations. Arguably, there is growing recognition that effective leadership involves the development of a 'toolbox' of behavioural responses and styles (Goleman, Boyatzis, & McKee, 2002); where the behavioural responses are informed by a greater awareness of the impact of supportive leader behaviours on follower outcomes.

One example of this approach is transformational leadership theory which outlines four key behavioural components of leadership;

- idealised influence (charisma),
- inspirational motivation,
- intellectual stimulation, and;
- individualised consideration (Bass, 1985).

This theory outlines how through demonstration of these components, leaders can transform the attitudes, beliefs and values of their followers (Rafferty & Griffin, 2004). Unlike some of the earlier leadership theories, transformational leadership is seen to be something that can be learned and developed (Bass, 1991).

Idealised influence, or charisma as it is often referred to, relates to leaders who act in line with their own values and vision; they are respected and seen as trustworthy role models who take into consideration the well-being of others (Casimir, Waldman, Bartran, & Yang, 2006). Leaders who demonstrate idealised influence can build a shared vision and gain trust and commitment from their followers, which can subsequently have a positive impact on team performance (Dionne, Yammarino, Atwater, & Spangler, 2004).

Furthermore, inspirational motivation refers to the leader's ability to enhance the capability perceptions of their followers through positive messages and a focus on what can be achieved, as opposed to motivating through fear. This creates a self-fulfilling prophecy resulting in greater levels of achievement (Eden, 2003). Transformational leaders articulate a desirable vision that their followers identify with and strive towards (Bass & Stogdill, 1990; Covey, 2007). Capability and overall confidence can also be enhanced through the leader's use of intellectual stimulation; where the leader encourages followers to think for themselves and challenge assumptions. As a result, followers will be more creative in the way that they approach and solve problems and will take accountability for their own successes (Bass & Avolio, 1990; Covey, 2007).

The final component of transformational leadership, individualised consideration, describes leaders who consider their followers' physical and psychological safety, as well as investing in their development needs. Transformational leaders recognise the aspirations and needs of their followers and take into consideration their abilities (Walumbwa, Orwa, Wang, & Lawler, 2005). They provide their followers with challenges to help them grow and develop and actively encourage them to be involved in decision making. They help their followers to gain the confidence to succeed (Schaubroeck, Lam, & Cha, 2007). Individualised consideration also refers to a leader who is compassionate and caring; a leader who considers individual needs and provides support.

Reviews of the empirical research on transformational leadership and its relationship with performance and satisfaction appear promising on the surface. Dumdum, Lowe and Avolio (2013) conducted a meta-analysis of transformational leadership studies that use the Multifactor Leader Questionnaire (MLQ) and reported positive relationships between the four behavioural components, performance effectiveness and satisfaction. The opposite pattern was found for more transactional leadership styles. Furthermore, Dvir, Eden, Avolio and Shamir (2002) carried out a longitudinal, randomised field experiment on military leaders to explore whether training that aimed to increase transformational leadership could impact on follower development and performance. Performance data was collected from leaders' direct and indirect followers and this revealed positive significant effects in both groups, whilst the control group showed no significant changes.

Although these studies appear to indicate the effectiveness of transformational leadership, there is little understanding of the causal mechanisms. In addition, measurement tools have failed to replicate the dimensional structure that the theory outlines (Van Knippenberg & Sitkin, 2013). Similarly, one of the common criticisms of transformational leadership theory is its lack of "conceptual clarity" (Sarros & Santora, 2001, p.391). The terms charismatic and transformational leadership are often used interchangeably, even though charisma is one aspect of transformational leadership (Bryman, 1992; Northouse, 1997). Similarly, although this theory of leadership has received a great deal of attention, it has been "plagued by limitations of measurement" and poor study designs (House & Aditya, 1997, p.420). Transformational leadership theory has undoubtedly paved the way for new perspectives of leadership (Dvir et al., 2002), including authentic leadership theory which will be discussed next.

1.2.5 Authentic leadership

Building on transformational leadership theory, the concept of authentic leadership was introduced. Authentic leadership is defined as "a process that

draws from both positive psychological capacities and a highly developed organisational context, which results in both greater self-awareness and self-regulated positive behaviours on the part of leaders and associates, fostering positive self-development” (Luthans & Avolio, 2003, p.243). Authentic leadership theory is still evolving; however, unlike other types of leadership theory, authentic leadership is not defined by a single leadership style but is the foundation of all leadership (Avolio & Gardner, 2005). In this sense, authentic leadership can arguably add to and extend existing leadership theories, rather than replace them. Luthans, Norman and Hughes (2006a) highlight this point by saying that a transactional or transformational leader can differ in their levels of authenticity, but that an authentic leader is not necessarily defined as either transactional or transformational. There is general agreement that authentic leadership incorporates transformational leadership and other ethical leadership approaches (Avolio et al., 2004; May, Chan, Hodges, & Avolio, 2003). However, one of the distinguishing characteristics of authentic leaders is that they have a high level of self-awareness, as well as having a good awareness of the perspectives and strengths of those around them (Avolio et al., 2004).

The belief that authenticity is crucial to leadership success is growing in popularity in both the academic and applied spheres of leadership. Bill George, former chairman and CEO of Medtronic has discussed his leadership experience and highlighted that in target-driven, pressured environments authenticity is key to success (George, 2003). The theory is highly relevant to the modern workplace and addresses the growing concerns surrounding leaders who operate through secrecy, hidden agendas and unethical behaviour. High profile scandals such as the FIFA corruption case have led to a new focus on ethical leadership, with the concept of authentic leadership receiving a great deal of attention (Cooper, Scandura, & Schriesheim, 2005). In this sense, authentic leadership has both theoretical and practical value.

Authentic leadership theory addresses the challenge of leaders who feel driven to operate in a way that means they lose sight of their values to succeed.

Contrary to what many organisations believe, George (2003) argued that it is possible to have a strong and positive relationship with your followers, characterised by authenticity, and meet your objectives as a leader. Essentially, authentic leadership theory states that you can be true to yourself and your beliefs, and still be successful. George (2003) emphasised a need for leaders who “lead with purpose, values and integrity” (p.10). In fact, authentic leadership is not restricted to those occupying senior leadership or management positions; it has been identified as a leadership style that applies across all levels (Luthans & Avolio, 2003). This is in line with more distributed leadership practices that have been advocated within the NHS (The King’s Fund, 2011).

The theory has its roots in positive psychology and although there is no single formal definition of authentic leadership (Shamir & Eilam, 2005), researchers agree that its focus is on how to achieve the full potential of individuals and develop positive behaviours (Avolio & Gardner, 2005; Luthans & Avolio, 2003). Essentially, authentic leaders create the conditions for learning to take place, which facilitates their followers’ personal development (Mazutis & Slawinski, 2008). They empower their followers to satisfy their own needs and reach their goals (Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Authentic leaders value and recognise their followers; they demonstrate a willingness to utilise and develop individual strengths (Luthans & Avolio, 2003). They show consistency between their internal values and the way in which they act and conduct themselves; they are true to themselves. An important distinction is made between authenticity and sincerity; sincerity is judged in terms of your honesty to others, whereas authenticity is about honesty to yourself (Avolio & Gardner, 2005; Erickson, 1995). Subsequently, it follows that to be authentic, leaders must have a high degree of self-awareness; they must understand their own strengths and weaknesses and the impact that they have on their followers (Kernis, 2003). Self-awareness is about having a good understanding of our own characteristics, thoughts and feelings. This is necessary to act in a way that is true to our beliefs (May et al., 2003). Authentic

leaders are also likely to be low self-monitors; they will express behaviour that is true to how they are thinking or feeling, rather than behave in a way that is deemed to be situationally or socially appropriate (Gangestad & Snyder, 2000). Similarly, self-regulation is an important process for authenticity. To act true to themselves, the leader must be able to control their own actions and must be seen to act out of choice rather than being pressured by other external rewards or punishments. In other words, their behaviour needs to be autonomous and self-determined. Self-awareness and self-regulated positive behaviours are important to both the leader and their followers (Ilies, Morgeson, & Nahrgang, 2005).

The importance of autonomous, self-regulated behaviour is demonstrated by self-determination theory (Deci & Ryan, 2000). Autonomy is identified as an innate and universal psychological need, alongside the need for competence and relatedness, which should be satisfied for optimal functioning and health. Autonomy concerns the individual's need for a sense of self, and to see oneself as the initiator and regulator of one's own actions (self-regulation). Leaders will be more intrinsically motivated and have better performance and well-being outcomes when they feel they have control and choice over their actions rather than being pressured or controlled into action by external forces, rewards or punishments (Ryan & Deci, 2000).

Within the research literature, four main constructs of authentic leadership have been identified;

- transparency,
- balanced processing,
- internalised moral perspective, and;
- self-awareness (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).

Other researchers have also identified 'authentic behaviour' as a separate component of authentic leadership, which refers to self-determined behaviour and the expression of one's true self (Ilies et al., 2005). However, this

is the fundamental basis of authentic leadership theory which arguably underlies all components and has since been categorised under the construct of internalised moral perspective (Walumbwa et al., 2008). Although each of these individual components are important, research suggests that they do not add any incremental validity over the construct of authentic leadership (Walumbwa, Wang, Wang, Schaubroeck, & Avolio, 2010a).

The first construct, transparency, refers to the leader's ability to be genuine in their relationships with others and to present an accurate view of themselves. Being transparent is increasingly being recognised by researchers as an important component of effective leadership and successful organisations (Krosgaard, Brodt, & Whitener, 2002; Norman, Avolio, & Luthans, 2010; Rogers, 1987; Vogelgesang & Lester, 2009). Through being transparent, authentic leaders can promote a climate where their followers are encouraged to learn and grow and are given the information and support to do this. Whilst transformational leadership highlights the role leaders play in creating a strong vision for their followers, the transparency of authentic leaders means that they are more likely to influence their followers through their own example and character (Walumbwa et al., 2008).

Authentic leaders also demonstrate balanced processing; they aim to analyse all information in an objective way before making decisions. Balanced processing is about having an undistorted view; this is important for demonstrating integrity. It is a key aspect of authentic leadership as it helps the leader to have a good understanding of their skills, strengths and weaknesses. Conversely, inauthentic leaders will process things in a biased way; they will seek information that validates their skills and abilities and will ignore other information (Ilies et al., 2005). However, the theory also acknowledges that leaders are human and will be prone to bias (Avolio & Gardner, 2005), but describes a 'balanced' leader as someone who actively tries to take into consideration many different points of view before deciding on a course of action.

High levels of moral and ethical conduct underlie authentic leadership; this is seen to be inherent to the leader and is termed 'internalised moral perspective'. This is important as the leader has the potential to impact upon their followers, and therefore promote positive ethical and moral development. The values held by an authentic leader are fundamental as they guide the way in which they act. Theories of ethical leadership have received growing attention over recent years, (Brown & Treviño, 2006; Yukl, 2010) and arguably the concepts of authenticity, ethics and values are strongly related (Plinio, Young, & Lavery, 2010). Although our values result from socialisation processes (where we are influenced by others and society around us), over time, values become a core part of who we are, and subsequently our authenticity (Plinio et al., 2010).

The final construct, self-awareness, plays an important role in authentic leadership development; it is associated with reflection and helps the leader to develop a deeper understanding of who they are and what they value. This includes an understanding of their emotions, values, goals and the way they impact on others (Gardner et al., 2005). Research suggests that self-awareness is part of an ongoing process linked to an individual's identity, rather than being something that a leader achieves. Events and experiences can affect an individual's identity by encouraging them to explore themselves and change their own self-awareness (Hall, 2004). This awareness then impacts on the way in which the leader acts and behaves; authentic leaders will act in accordance with their values and beliefs. The perception they have of their current self and the view that they hold of their possible self can be a strong motivator for the authentic leader; the leader will take positive action to reduce any discrepancies over how they see themselves and how others see them (Phillips & Silvia, 2005).

In summary, authentic leadership is not about presenting the persona of a leader; it is about being true to yourself and understanding your own strengths and weaknesses. Self-awareness plays an important role here, and the personal resources of the leader will help them to achieve this. Having a

sense of purpose is also a key part of effective leadership; if a leader does not have a clear purpose then it is unlikely that others will be motivated to follow them. Similarly, authentic leaders do not just delegate work out to their subordinates; they engage with them and form relationships that are characterised by high levels of trust. Their consistent behaviour helps their followers to work effectively and allows them to build a sense of connectedness which enhances commitment to the organisation (George, 2003). Through their own behaviour and actions, authentic leaders help to create and maintain an authentic work culture that is characterised by high levels of integrity and transparency. The authentic leader plays a key role in demonstrating and translating the values of the organisation into everyday behaviour; they essentially become role models.

This brief review has highlighted that many aspects of authentic leadership have derived from transformational leadership theory (Bass & Steidlmeier, 1999), as well as other forms of positive leadership (Lloyd-Walker & Walker, 2011; May, Chan, Hodges, & Avolio, 2003). Authentic leadership is a construct that underlies positive leadership theories (May et al., 2003). Having strong morals, good self-awareness and acting as a positive role model are consistent themes across transformational and authentic leadership theories (Bass & Steidlmeier, 1999). Similarly, trust is fundamental to both theories, and has been shown to mediate both authentic and transformational leadership (Avolio, 1999; Avolio et al., 2004).

Subsequently, the similarities between transformational and authentic leadership theories have led scholars to question whether they are in fact empirically and theoretically distinct. A meta-analytic review conducted by Banks, McCauley, Gardner and Guler (2016) attempted to establish whether either theory adds any incremental validity beyond the other. They highlighted the possible conceptual overlap between idealised influence and internalised moral perspective and explored the similarity in outcomes that have been proposed by both theories. However, they did identify some differences in their findings; authentic leadership was shown to be more strongly associated with

collective outcomes (e.g. organisational citizenship behaviours), whereas transformational leadership was associated with more individual level outcomes (e.g. job satisfaction). These findings suggest that authentic leadership and transformational leadership should be considered as related but separate constructs.

Other scholars have also argued that authentic leadership is a distinct construct (Neider & Schriesheim, 2011; Walumbwa et al., 2008; Yukl, 2010). An important part of theory and construct development is that it must be shown to have a unique contribution, or discriminant validity, for it to extend and add value to previous theories (Cooper et al., 2005). In relation to authentic leadership, it is argued that a leader can be authentic without possessing all aspects of other types of leadership. For example, unlike transformational leaders, authentic leaders are not necessarily focused on developing their followers so that they act in a leader-like way, nor are they necessarily seen as charismatic by their followers. However, their ability to build strong relationships with their followers and become a role model to them means that authentic leaders have a positive impact (Avolio & Gardner, 2005). Self-awareness also plays a distinct role in authentic leadership theory, as to act in an authentic way the leader must be aware of their own values and beliefs (Avolio & Gardner, 2005).

Given that authentic leadership arose from the positive psychology movement, it follows that one area which makes it distinct from other leadership theories is the way it draws on the research of positive psychological capital. Psychological capital is a psychological state represented by four constructs;

- confidence (self-efficacy)
- optimism,
- hope, and;
- resilience (Luthans & Avolio, 2003; Luthans, Youssef, & Avolio, 2007b).

These psychological (or personal) components are defined as states that can be developed by the leader and can help to promote greater self-awareness. Although these resources are important individual constructs, combined they represent the overall psychological capital of the leader (Luthans & Youssef, 2004; Luthans et al., 2007b). Researchers propose that authentic leadership can mediate follower outcomes through their ability to influence the psychological capital of their followers (Avolio et al., 2004). Hope, optimism, resilience and self-efficacy applied to the workplace result in positive organisational behaviours (Luthans, 2002). Trust forms an important part of this; authentic leaders gain the trust of their followers through their moral and predictable behaviour (Gardner et al., 2005), which makes their followers more likely to model their behaviours.

Despite authentic leadership being one of the most widely cited theories amongst leadership scholars over recent years, there is a noticeable lack of empirical studies testing this theory (Toor & Ofori, 2008). Walumbwa et al. (2008, 2010a) have provided some empirical support for the impact of authentic leadership on follower attitudes towards work. In addition, Penger and Černe (2014) tested a multi-level model to explore how authentic leadership influenced follower job satisfaction and work engagement. The study was carried out in a manufacturing company in Slovenia and involved 23 leaders and almost 300 followers. They found there was a positive relationship between authentic leadership and follower job satisfaction and work engagement, and showed that perceptions of supervisor support played a mediating role in the relationship between authentic leadership and follower job satisfaction. They argued that this finding could be explained by organisational support theory (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002) and the belief that leaders are an important source of information about the support available from the organisation. However, they recognised that a limitation of their study is that they failed to consider the role of the organisational culture or climate. Similarly, Wang, Sui, Luthans, Wang and Wu (2014) argue that the main limitation of existing

empirical studies of authentic leadership is that they do not consider personal or contextual factors that play a role in the leader-follower relationship and outcomes.

This is one of the main criticisms of authentic leadership theory; it puts the leader at the centre and is at danger of returning to a heroic perspective of leadership which oversimplifies the complex context in which leaders operate (Alvesson & Sveningsson, 2013). Similarly, the idea that authentic leaders are true to themselves has been questioned as they are human and will inevitably be influenced by societal norms, values and other influences that fall outside of their personal convictions (Alvesson & Sveningsson, 2013). Arguably, a more appropriate theoretical perspective would be to integrate positive leadership theories, including authentic leadership, with more situational based approaches that recognise the role of the environment. Section 1.3 will set the scene for a more integrated approach of leadership which will be explored within this research.

1.2.6 Summary of leadership theories

In summary, this review has highlighted the lack of agreement as to what exactly constitutes effective leadership, and the debates throughout the leadership literature (Yukl, 2010). Despite this, one of the key themes of all theories of leadership is that leaders try, through their own behaviour, to influence the behaviour, well-being and performance of employees (Bass & Stogdill, 1990; Gilbreath & Benson, 2004; McCormick, 2001; Yukl, O'Donnell & Taber, 2009). It is evident that leader behaviour is an important aspect of all models, whether this is implicit or explicit.

Furthermore, whereas early theories saw effective leadership as an entity, more recent theory perceives leadership as a process (Hollander, 1992; Lord, Gatti, & Chui, 2016; Uhl-Bien, 2006). The dynamic and unfolding interaction between the leader, their followers and the environment is crucial in this process. There is growing recognition of the fact that leadership is more than just the individual, and that both situational and social aspects of

leadership play an important role. However, many existing studies of leadership fail to assess environmental components (Day, Zaccaro, & Halpin, 2004; Gardner, 1993).

Another key feature that distinguishes early trait theories from more recent theories of leadership is that effective leadership is now considered to be something that can be developed and promoted through changing the leader's behaviour and developing their psychological states. This supports the concept of human agency; the idea that we have the capacity to shape ourselves and the situations we find ourselves in (Bandura, 1988a, 1988b, 1989).

Arguably, there is a need for a more integrated approach to understanding leadership, which considers the leader's behaviour, their personal resources and the environment. This thesis will predominantly focus on the behaviours, characteristics and personal resources as outlined within authentic leadership theory. Furthermore, it will explore a key aspect of LMX theory by looking at the relationship between leaders and their followers. In addition, this research will also incorporate elements of situational theories by exploring how perceptions of the environment interact with the leader's behaviour and personal resources. It is evident that within this thesis, a vast number of factors will need to be considered to understand the process of leadership within the workplace. To help integrate these factors and different theoretical perspectives and to guide this research, it is argued that a social cognitive perspective of behaviour and performance provides a framework for understanding leadership. Social cognitive theory emphasises that to understand human functioning, the interaction between personal (psychological), environmental and behavioural components must be considered (Bandura, 1986). The section that follows introduces a social cognitive perspective of leadership and sets the foundation of the first study within this thesis.

1.3 Integrating leadership theory: a social cognitive perspective

The brief review of the literature highlights the interplay between the leader's characteristics, their behaviour, the situation or environment in which they operate and the relationship that they build with their followers. To fully understand leadership and its impacts, it is necessary to adopt a more integrated approach rather than treating these as separate schools of leadership theory. Social cognitive theory (1986) provides a framework to explore the various components of leadership and the relationships and impacts that leaders may have on their followers. As McCormick (2001) states:

What leadership researchers have been describing for years is a person engaged in self-regulation in a complex and ever-changing task setting, the leadership situation. Through his or her behaviours, the individual in the leadership role actively attempts to influence the processes of the task-performing group and the larger social context in which the group must function (i.e., a company, a school, a community) in order to facilitate group success. Cognitive processes and other personal resources underlie the actions selected and the proficiency with which they are executed. (McCormick, 2001, p.28)

McCormick (2001) argues that through adopting a social cognitive framework, this can offer a new perspective of the leadership process and can help to incorporate the important role of leader cognitions, particularly self-efficacy beliefs, which have been largely neglected within the existing research. However, despite proposing several areas for leadership research, McCormick (2001) does not empirically test this approach to leadership. Therefore, this becomes an important area of research which will be addressed within this thesis. The following sections will introduce social cognitive theory as a framework for understanding leadership.

The theory draws on and extends behaviourist and social learning frameworks, which focus on how behaviour is learned through our environment and observing and modelling others, by highlighting how

cognitive processes are an important aspect of this (Bandura, 2006b). Thought mediates the impact that outcomes have; it is too simplistic to view outcomes or reinforcement as the sole determinants of behaviour. The way in which we perceive our experiences is a constructive process; humans have the capacity to think about the impact their actions have and learn from this. Bandura (1997) argues that complex human behaviour cannot be explained without considering the role that thoughts play in regulating our actions. Our cognitions and thoughts help us to make sense of the world around us; they allow us to assess what our capabilities are and the possible impacts of actions (Bandura, 1999). Many external influences on us are indirect and occur through self-processes and cognitions that make up our personal (psychological) components. This enables us to regulate our behaviour appropriately to respond to this external influence. We are not merely the product of environmental controls and reinforcement, but instead we have insight and foresight and we can self-regulate, self-evaluate and self-reinforce behaviours. Crucially, we can regulate our actions and behaviour through anticipated consequences, rather than having to enact the behaviours and experience the consequences, which would be a highly risky and inefficient approach.

Social cognitive theory differs to other models of behaviour in the sense that it does not suggest there is a unidirectional cause of behaviour (e.g. the environment or internal dispositions, such as traits). Bandura (1986) highlights that one of the weaknesses of trait approaches is that they cannot account for the fact that behaviour does not remain stable across situations and time. This finding itself implies that traits alone cannot be the sole determinant of our behaviour. Subsequently, by applying social cognitive theory to leadership, it supports the view that effective leadership is more than internal traits or characteristics of the individual. Essentially, it argues against the view of leadership as an entity.

Within social cognitive theory, Bandura (2001) outlines that humans are not completely autonomous in how they act, but they are also not solely the product of the environment. Social cognitive theory moves away from one-

sided determinism; the idea that we are controlled by the environment or through personal dispositions. It also extends previous views of one-sided interactionism and argues for triadic reciprocity and bidirectional links between personal (psychological/cognitive components), environmental and behavioural influences (see Figure 1.2). The theory proposes that these aspects all influence each other to determine human performance (Bandura, 1986; Crothers, Hughes, & Morine, 2008; Pajares, 1996). Therefore, it can provide a more integrated understanding of leadership performance and the relationship between leaders and their followers, and the associated impacts.

The theory also rests on the principle that humans can direct their own behaviour and motivate themselves, which subsequently supports the view that leaders can control the way in which they behave, and suggests that supportive and effective leadership behaviours may be developed (McCormick, 2001).

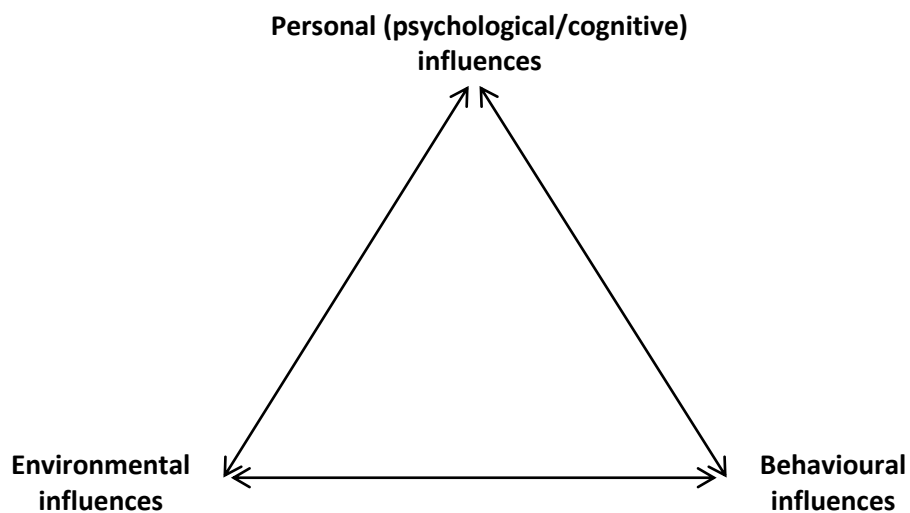


Figure 1.2: Personal, environmental and behavioural influences

1.3.1 Personal, environmental and behavioural influences

The first aspect, personal components, encompasses a variety of things such as cognitions and emotions. Although the term 'personal components' has predominantly been used throughout this research, this aspect can also be

referred to as the 'psychological' or 'cognitive' components of an individual. When a person observes another's actions in the environment, this can affect their cognitions about that behaviour and the likelihood of it being repeated. Bandura (1989) also highlights the biological nature of our personal components; our sensory or neural systems can affect our behaviour, but similarly our behaviour can affect these systems. Essentially, personal components refer to thoughts, beliefs, self-perceptions, levels of expectance and affective aspects which can subsequently influence behaviour and accomplishments (Bandura, 1986; Pajares, 1996). Self-efficacy has been shown to be a particularly important cognition which acts as a self-regulatory mechanism that influences our actions, effort and persistence (Bandura, 2000a, 2000b; Luszczynska & Schwarzer, 2005).

Drawing on authentic leadership theory, a leader's personal components can refer to their psychological capital, which as previously outlined is a psychological state made up of self-efficacy, optimism, resilience and expectancy (Luthans & Youssef, 2004; Luthans et al., 2007a, 2007b). Luthans et al. (2007b) point out that the psychological capital of an individual is not momentary and can remain stable for periods of time, unlike other states which are changeable from one moment to the next. The components of psychological capital are conceptually independent, with strong theoretical backgrounds and research supporting their importance. However, they may also be linked by shared mechanisms and form part of a higher order construct of psychological capital, which may be a better predictor of performance and job satisfaction than the individual components alone (Luthans et al., 2007b). In summary, when applying a social cognitive perspective to leadership theory and research, the 'personal influences' component may relate to the leader's psychological capital; a personal resource or strength that is associated with performance improvements (Luthans et al., 2007b).

As previously discussed, a growing number of leadership theories highlight the importance of the leader-follower relationship. Therefore, it follows that it is not just the leader's personal resources that are of interest,

but also the personal resources of their followers. Research suggests that leaders can be influential in determining the personal resources seen in their followers. Leaders who are supportive, respectful and who involve their staff can promote greater levels of organisational based self-esteem in their followers (Lee, 2003). Similarly, authentic leaders have been shown to positively influence the psychological capital of their followers through their own psychological capital (Yammarino et al., 2008). The leader may also influence the perceived environment and work climate, which can subsequently impact on the psychological capital of their followers (Luthans, Norman, Avolio, & Avey, 2008).

The second aspect of social cognitive theory is the behavioural component which refers to responses and actions, as well as skill development. The way in which people interpret the outcome of their behaviour informs and alters their environment but also their personal components (Bandura, 1989). As outlined earlier, the behavioural components within authentic leadership theory include transparency, fairness, availability and balanced processing (Walumbwa et al., 2010a). It is through the process of reflecting on our own behaviour and that of others, and by observing the consequences of those actions we can learn to exercise control over how we behave in the future. Self-awareness and self-regulation are important components that underlie our behaviour and are central to both authentic leadership theory and social cognitive theory. However, behaviour will also be influenced by the personal components of the individual and the environment they construct and operate within. For example, an individual who works in a restrictive environment and who lacks confidence in their ability is likely to display different behaviours to someone who feels that their environment is supportive and resourceful, and who has confidence in their ability to perform.

The third aspect, environmental components, refers to aspects that are external to the individual; it can relate to both the social environment and the physical environment in which we operate. The social environment consists of family, friends, and colleagues and the physical environment relates to the

more tangible conditions around us (e.g. the layout of a room, noise, and lighting). There is also increasing research into the 'psychosocial' work environment; this refers to the interaction between psychological processes and the social environment of work (Theorell, 2007). Essentially, the study of the psychosocial environment is focused on the social structures and interactions that take place within the workplace and how these are linked to employee thoughts, emotions and behaviour. Research evidence shows that perceived psychosocial characteristics in the workplace (e.g. perceived demands or control) can significantly impact on employee health, well-being and performance (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Doi, 2005; Stansfeld & Candy, 2006). Thoughts and behaviours are identified within social cognitive theory as influencing the environment we shape around us, but likewise the perceived environment can affect our thoughts, actions and behaviour (Bandura, Barbaranelli, Caprara, & Pastorelli, 2002). We do not respond passively to the influences in the environment; we actively seek out and make sense of this information and help to construct the environment and the influence that it will have (Nevid, 2009).

The environment also provides models for behaviour through observational learning (Bandura, 1986, 1989). The leader arguably plays a key role here; the environment and climate that they help to create for their followers will influence their opportunities to perform optimally, or the constraints placed on them (Cummings, MacGregor, Davey, Lee, Wong, Lo, Muise, & Stafford, 2009; Nelson, Boudrias, Brunet, Morin, De Civita, Savoie, & Alderson, 2014). Social cognitive theory also makes a distinction between three types of environmental structures; imposed, selected and constructed (Bandura, 1997). The type of environment can influence the level of personal agency; for example, an imposed environment is largely forced on people so they have little control over it. However, they can influence how they interpret and respond to it and ultimately the way in which they behave. In this respect, they have control over the constructed environment. In some cases, individuals will have control over the environment they select, and this will lead to the

greatest level of personal agency. Our sense of personal agency will subsequently influence our behaviour (Luszczynska, & Schwarzer, 2005). This highlights the interplay between the environment, our personal components and the behaviours we demonstrate.

All three components interact and influence each other. However, Bandura (1989) points out that some components may have a stronger influence than others, and similarly, the influence of each of the components may not happen at the same time (Wood & Bandura, 1989). This can help to explain why and how leader behaviour and performance varies over time and across situations as advocated by situational theories of leadership. Our thoughts and beliefs (i.e. our personal components) will be affected by the information we obtain through social influences and the social environment (Bandura, 1986). However, our personal components can also be observed by others and subsequently affect the environment created around us. Similarly, aspects of the environment are activated by our behaviour, and the environment can also influence which behaviours are activated. As Bandura (1989) states; “people are both products and producers of their environment” (p.4). Essentially, we contribute to our circumstances; we are not just the result of our circumstances (Bandura, 2005). From this perspective, leaders play an active role in producing their own situations and environments. Leaders are not driven or controlled by their environment; instead they have control over their behaviour and the environments they produce through their personal components and the way this affects their sense of personal agency and behaviour.

Based on this theoretical perspective, it could be expected that the personal components of a leader may be related to their behaviour, so that the higher the leader scores on the various personal components (e.g. self-efficacy), the more positive their behaviours and actions. Arguably, this relationship may be explained by the positive outlook that is associated with an individual's personal components; they may have more positive expectations of the future and believe in their ability to overcome challenges.

Subsequently, they are more likely to be satisfied and committed to the work they do (Luthans et al., 2007a; Newman, Ucbasaran, Zhu, & Hirst, 2014), which will be reflected in their behaviour and the way they perceive their work environment. Drawing on Fredrickson's 'Broaden and Build' theory (1998, 2003, 2004), the positive emotions and attitudes that individuals with greater personal components experience will help to broaden their thoughts and actions. They are likely to engage in more diverse and positive behaviours which go beyond what is required of their job role. In this sense, the personal components of an individual are likely to influence both behaviour and performance outcomes. The relationship between the thoughts and perspectives that individuals hold of themselves (i.e. their personal components) and their actions may not be a conscious process. However, through identifying this relationship, individuals can become more self-aware and will learn to process information in a more balanced way; which is a key component of authentic leadership (Avolio & Wernsing, 2008).

According to social cognitive theory, an individual's personal components may also influence the perceptions they hold of the psychosocial environment that they operate within. For example, researchers have suggested that greater levels of personal components are associated with perceptions of stronger social networks (Newman et al., 2014). Arguably, the relationship between personal components and the perceived environment might be explained through the individual's behaviour. Essentially, when individuals make positive judgements about their personal components, then they may act in a more favourable way that allows them to construct a more positive work environment. For example, an individual who has strong efficacy beliefs may gain the trust and respect of others around them and develop strong social relationships. Subsequently, they may receive greater social support and benefit from the shared knowledge and different perspectives that they gain through working closely with others. This will positively influence their perceptions of the social resources within their environment. Research by Eisenberger et al. (2002) supports the role of the leaders' behaviour in building

social networks within their environment; they state that when employees perceive their leader to behave in a supportive way, there is an obligation on them to return this by helping the leader to reach their goals. In this sense, the employees become a social resource to the leader.

Similarly, when individuals make positive efficacy judgements and believe in their ability to influence outcomes, then they may be more likely to experience a greater sense of autonomy and control in their work environment. This relationship may also be explained, in part, by the individual's positive and empowering behaviours. Essentially, through their behaviour, individuals can gain greater followership. As a result, this is likely to lead to a greater sense of overall control and autonomy within the workplace (Ganster & Fusilier, 1989). It might also be expected that individuals who hold more positive personal beliefs will see their environment as being more positive and rewarding. This relationship may be partially explained by their behaviour; personal resources may promote positive behaviours, which in turn may be recognised and rewarded.

Arguably, the relationships that have been outlined between personal resources and behaviour on the perceived environment may be particularly true for leaders because of their ability to act as a role model and have greater levels of influence over the environment they create (Kelloway & Barling, 2010). Therefore, the relationship between personal components, behaviour and the environment becomes an important area to explore in leaders, and forms the first research question within study I:

Research question 1: Does leader behaviour help to explain the relationship between leaders' personal components and their perceptions of the work environment?

It is evident that human agency plays a central role in this relationship and is a key assumption underlying social cognitive theory. Therefore, this will be discussed in more detail next.

1.3.2 Exercising human agency

Bandura (1977a) describes five capabilities that allow individuals to initiate and regulate their behaviour;

- The first, 'symbolising capability', allows individuals to process information and make sense of it to form cognitive models which guide behaviour. This is important as it highlights that humans do not just learn through 'doing' (i.e. trial and error) as reinforcement theory suggests, but instead options and solutions are explored through the process of symbolising. Through symbols, humans can engage in foresightful action.
- Similarly, humans have the capability of forethought which enables behaviour to be effectively planned. This will also be influenced by expectancies; the evaluation of the anticipated outcome. Through the ability to symbolise, we can represent future events and expectations which are subsequently translated into action through self-regulatory mechanisms.
- Humans also learn through observation (vicarious learning), which helps to avoid costly consequences that could arise if learning only took place as a result of actions carried out.
- Humans have self-regulatory capability, which means behaviour can be initiated and individuals are able to set their own goals and standards. Essentially, this is an internal control mechanism which is affected by self-produced and external influences including social and moral standards.
- Finally, self-reflective capability refers to the way in which humans reflect on and come to understand their environments and self. Self-efficacy is an important type of self-reflection, which subsequently influences self-regulation. It is to this that this thesis will now turn to.

1.3.3 Self-efficacy

Self-efficacy, or capability as it is often referred to, is one aspect of an individual's personal components which can dictate how they behave (Stajkovic & Luthans, 1998). It forms part of an individual's self-reflection and is seen to be a key self-regulatory (human agency) mechanism. Self-efficacy is concerned with whether an individual believes that they have the behavioural, cognitive and motivational resources to successfully complete a task (Stajkovic & Luthans, 1998). Self-efficacy is a strong predictor of behaviour; it can affect our actions directly, but also through its influence over goal setting and outcome expectations (Abele & Spurk, 2009; Bandura, 1997, 2000b). It is distinguished from other motivational and personal concepts that have traditionally been explored; for example, self-efficacy differs to self-esteem as it does not imply that beliefs are global and stable across situations. Instead self-efficacy is about our beliefs in our ability to carry out a specific task within a certain context (Locke & Latham, 1990). Similarly, self-efficacy can also be distinguished from outcome expectancies which form part of expectancy motivation theory (Vroom, 1964), because it is about our ability to execute, or perform a task, rather than the belief that what we do will result in a desired outcome (Luszczynska, & Schwarzer, 2005).

According to Bandura (1977a), there are three dimensions of efficacy expectations; magnitude, generality and strength. Magnitude refers to the way our self-efficacy beliefs can differ depending on the level of task difficulty. Our efficacy beliefs can also differ in terms of how broadly they extend (their generality), or if they apply to a specific task situation. The third dimension is the strength of our self-efficacy beliefs which will influence the stability of our efficacy expectations. If our beliefs are weak, then any setbacks may quickly result in our self-efficacy levels being diminished. Conversely, strong self-efficacy beliefs may be more able to withstand setbacks and occasional failures. Together, the three dimensions have important implications for performance, as they will influence the level of persistence and effort that individuals give to a task.

Self-efficacy beliefs are shown to be a strong predictor of subsequent accomplishments and performance; a meta-analysis carried out by Stajkovic and Luthans (1997) which explored over 100 studies found that overall self-efficacy accounted for a 28% increase in work-related performance. Therefore, self-efficacy theory has clear applications for leadership behaviour and self-regulation; leaders with low self-efficacy are unlikely to set high personal standards and will show diminished motivation, which subsequently means that they are likely to fall short of their own potential (Bandura, 2001). In contrast, leaders with higher levels of self-efficacy are more likely to visualise their success, which helps to regulate their behaviour in a way that will enable them to attain success. They are more likely to persist and subsequently they demonstrate higher levels of performance (Bandura, 1988a). Similarly, they believe that they are better able to manage challenging situations and environments; threats are more likely to be perceived as manageable and controllable (Bandura, 2000b; Luszczynska & Schwarzer, 2005). This demonstrates the reciprocal relationship between the perceived environment and leaders' personal components. Furthermore, it is recognised that the personal components of leaders, including their self-efficacy, can also be a key determinant of the health, well-being and performance of their followers (Walumbwa, Peterson, Avolio, & Hartnell 2010b; Woolley et al., 2001). This demonstrates the importance of developing self-efficacy in leaders.

One of the key determinants of self-efficacy is task mastery (Bandura, 1977b). Individuals need to be given evidence of their success to enhance their self-efficacy (Maddux, 2009). However, it is important to note that successful completion of a task does not guarantee increased levels of self-efficacy, and this will depend on the way that the individual appraises the situation (Bandura, 1977b). For example, successful performance is more likely to enhance levels of self-efficacy if it is seen to result from skill and ability as opposed to effort, luck or other external factors. Over time, the successful completion of a task will strengthen efficacy beliefs, meaning that the

occasional failure can be tolerated without having a damaging impact on levels of self-efficacy (Bandura, 1977b).

Modelling of behaviour is another mechanism which increases self-efficacy. Essentially, humans can model their behaviour on others which allows them to develop new competencies, skills and patterns of behaviour. Modelling is not just about mimicking behaviour; it allows us to learn rules for innovative behaviour and abstract modelling (Bandura, 2001, 2016). Bandura (2016) states that the research conducted over the years has helped to provide a better understanding of how modelling works. Firstly, the process helps an individual to learn new thinking and behavioural patterns and secondly, it promotes the self-regulation and motivation of action through demonstrating the value (i.e. desirable or negative outcomes) associated with the modelled behaviour. The individual also learns to develop emotional reactions to cues based on what is modelled; for example, they will learn to dislike things that the model was disgusted by. Cognitive skills can also be learned through the model's verbalisation of their reasoning behind their actions (Bandura, 2016). This can help to explain how leaders influence the behaviour and cognitions of their followers.

One of the main advantages of modelling is that it is a much faster approach to learning than direct experience (Bandura, 2016). However, observing others will have greater influence if the individual processes this information and engages the motivational processes to translate this into action (Bandura, 2016). Research also suggests that modelling is most successful when the model is seen to have strong similarities to the observer (Stajkovic & Luthans, 1998). In addition, there is greater success when the model has desirable characteristics that the individual wants to imitate and where the outcomes of the modelled behaviour are clear (Bandura, 1977b). However, the underlying processes and constructs in relation to modelling cannot easily be studied and can only be inferred, leading to a lack of real scientific analysis in this area (Smith, 2007). Despite this, there is some promising evidence of modelling, and Bandura's work has formed the basis of

many behavioural interventions; particularly those aimed to help children with autism (Bellini & Akullian, 2007). The power of observation and modelling as a form of learning is also highly applicable to leaders; in many cases the leader will act as the model to their followers, and subsequently their behaviour can influence the personal components and behaviour of their followers (Bass, 1985).

Verbal persuasion can also help to increase an individual's beliefs in their abilities. Arguably, the leader is an important source of verbal persuasion within the workplace. The leader can use verbal persuasion techniques to improve performance through the Pygmalion effect; they help their follower to believe in their capability to achieve something which then helps this to become a reality (Lunenburg, 2011). This is especially true if the model (i.e. the leader) is trusted and seen to be competent themselves, and if they have built good relationships with their staff (Bandura, 1977b; Eden, 2003). However, Bandura (1977b) recognises that this may be a weaker source of self-efficacy in comparison to other strategies (e.g. task mastery) because it does not necessarily transform an individual's beliefs, but instead temporarily enhances existing beliefs.

Finally, our own physiological and emotional arousal levels help to guide our beliefs; high levels of arousal may be interpreted as vulnerability and cause us to doubt our abilities and our expectations of success (Bandura, 1977b). This is particularly likely if the arousal is associated with previous poor performance (Maddux, 2009). We tend to use these aversive physiological signs to make a judgement about our ability to carry out a task, and the anticipated outcomes. This can become a self-fulfilling prophecy as lower self-efficacy can trigger additional stress symptoms which can reduce the likelihood of an individual obtaining success, and subsequently reinforces the association between these cues and failure.

It is evident that leaders and followers who report higher levels of self-efficacy are likely to experience higher levels of performance at work, as well as better health and well-being through their positive outlook. In short, self-

efficacy can have both short and long-term health and performance implications both for the leader and the staff they oversee. In this sense, self-efficacy should be a key factor to promote within leadership training interventions. However, few training interventions have explored this in a leadership context (McCormick, 2001). Therefore, this forms a key part of the second study within this thesis and informs the evaluation criteria used to assess a leadership training intervention against.

1.3.4 Summary

In summary, social cognitive theory provides a useful framework for understanding the influence of personal, environmental and behavioural components which all play a role in human functioning and are applicable to the leadership process. There are strong grounds for believing that the positive behaviours that are demonstrated by individuals with more positive self-beliefs (i.e. personal components) will play a mediating role in the relationship between their personal components and perceived work environment. Therefore, this becomes an important area to explore when considering the individual leader.

However, the relationship between the personal, environmental and behavioural components of the leader can also interact and influence the personal, environmental and behavioural components of their followers. To fully appreciate the importance and the impact of the leader's behaviour in the workplace, it is necessary to explore the mechanisms through which leaders can influence their followers and the social dynamics at play. The literature on the mechanisms of influence will be discussed next.

1.4 The mechanisms of influence that leaders have on their followers

Many researchers acknowledge that leaders play a fundamental role in helping organisations to thrive through their ability to influence employee behaviour, emotions and cognitions (Avolio et al., 2009a). One of the challenges is trying to identify the mechanisms through which a leader can

influence their followers and affect both individual and organisational outcomes. Research shows that leaders can influence their followers' thoughts, attitudes towards the job, behaviours and performance (Avolio et al., 2004; Kuoppala et al., 2008; Nielsen & Munir, 2009; Sivanathan et al., 2004). Researchers also believe that leaders can influence employee well-being through their ability to change employee perceptions of their work environment (Nielsen, Randall, Yarker, & Brenner, 2008). However, further research is needed to better understand the underlying mechanisms involved (Avolio et al., 2004).

As previously mentioned, one view is that effective leaders may influence followers by becoming a role model. In particular, authentic leaders are considered to lead by example (Gardner et al., 2005) and their ethical behaviour makes them highly credible as role models (Walumbwa et al., 2010a). Essentially, the decisions leaders make and the way in which they behave towards their staff can help to build or destroy the sense of self-worth in their followers and will determine the impact the leader has on the performance, health and well-being of their followers (Latham & Saari, 1979; Rafferty & Griffin, 2004). The social influence and social dynamics of leadership can be explained, in part, by social identity theory (Tajfel & Turner, 1979). The theory outlines how we are motivated to reduce any uncertainty we may have about our own identity and are driven by self-enhancement. The theory states that we form some of our identity from the groups that we belong to, including our work groups and as part of this process we categorise our social world into in-groups and out-groups. Groups are represented by prototypes which are based on the attributes that characterise our in-group and distinguish it from other groups. This results in depersonalisation; where individual identity becomes less important than the overall group identity and subsequently we start to draw comparisons between 'us' (in-group) and 'them' (out-group). We favour in-group members more than out-group members because we associate them with a positive in-group prototype. It follows that the more prototypical the leader is, or the more the leader is seen to represent what the in-group is

about, the more likable they are and the greater influence they will be able to have (Platow & Van Knippenberg, 2001; Van Knippenberg & Van Knippenberg, 2005). This is known as the social attraction process. The process results in leaders emerging; those who are the most prototypical of the group can appear to have influence over others, even though they do not actively exercise influence or occupy a formal leadership role. Essentially, leaders emerge because they are seen to represent the ideal attributes for the in-group. Subsequently, it follows that an established or designated leader who is more prototypical of the in-group will be more attractive to their followers and is likely to gain support and endorsement from their followers, resulting in greater influence (Ullrich, Christ, & Van Dick, 2009). Effectively, they become a role model for followers to base their own behaviour on.

The idea that a leader can act as a role model can also be explained through social learning theory (Bandura, 1977b), which was later developed to form part of social cognitive theory (Bandura, 1986). Traditionally behaviour was viewed as being the result of inner forces or personality traits; however, over time it was recognised that this explanation was too simplistic as it did not account for the fact that our behaviour will depend on the specific environment or context. This began a movement which saw behaviour as resulting from forces in the environment; however, this was criticised for implying that individuals are passive and are controlled by environmental punishments and rewards in a one-way process. Instead, social learning theory offered a new perspective which proposed an interaction between behaviour and the conditions that control it. Vicarious, symbolic and self-regulatory processes are considered part of social learning theory. The belief that we can engage in vicarious learning and don't have to enact the behaviour or go through a process of trial and error ourselves is fundamental to this theory and our understanding of learning and behaviour. In addition, the theory outlines how we have a cognitive ability to foresee consequences and solve problems without having to enact the options; we have insight and foresight. Essentially, our actions and behaviours can be influenced by observing others and through

anticipated consequences of our own behaviour, rather than immediate external reinforcement.

The theory proposes that most behaviours are learned in some way through example. This is not a new idea and was originally put forward by Miller & Dollard (1941). However, our understanding of this has evolved and developed and there is much greater recognition of the symbolic processes involved in learning through the example of others. Arguably, the leader-follower relationship is so crucial as leaders can be the model that their followers observe. Social learning theory states that the model is an important determinant of how much learning takes place; you are more likely to model the behaviour of someone who you hold in high regard and who is influential. Hence, from a leadership perspective it follows that a respected leader who brings their followers along with them will be more influential than an autocratic leader who distances themselves from their followers. This forms the 'attention' aspect of modelling (i.e. having respect for the model), whereas the 'retention' aspect involves the translation of visual information into codes and verbal symbols and mentally rehearsing the observed events. Our thought processes play a key role here; they allow us to learn from others symbolically even though we may not have directly experienced the outcomes. The 'behavioural reproduction' aspect involves the coordination of actions and making adjustments based on feedback and reinforcement (both positive and negative reinforcement). Finally, motivational processes involve the assessment of whether the behaviour will lead to a valued outcome. This influences the likelihood of a modelled behaviour being adopted.

We can also regulate our behaviour and actions through self-evaluative and self-produced consequences. The way in which we evaluate our behaviour can be partly informed by the way others react to it. We also set our standards based on what we have observed in others (i.e. whether the model rewards themselves or shows self-dissatisfaction). In summary, social learning theory can provide an insight into the role of the leader in modelling the behaviours that they would like to see imitated by their followers.

Another perspective is that leaders may have a contagious effect on their followers. Whilst the idea of emotion or mood contagion is not new itself, it has only recently been applied to leadership (Johnson, 2008). This approach outlines how the emotions or moods displayed by a leader may play an important role in influencing the emotions and the behaviour of their followers (Bono & Ilies, 2006). Emotional contagion is not necessarily a conscious process; individuals may be unaware of the impact another person's mood is having on their own mood and behaviour (Neumann & Strack, 2000). However, this emotional contagion effect is thought to occur because of physiological feedback that is experienced after mimicking the behaviour of others (e.g. their posture or tone), which then results in our own experience of that emotion (Barsade, 2002).

An alternative route for contagion is a more conscious social comparison process; where people compare their moods to others around them within their environment and they adopt the mood that seems most appropriate based on the majority (Barsade, 2002). Based on this reasoning, it could be argued that a positive leader may develop more positive followers. According to Fredrickson's (1998, 2003, 2004) 'Broaden and Build' model, the experience of positive emotions (e.g. joy, awe, love, and inspiration) helps to broaden an individual's thought-action repertoire. Subsequently, individuals may be more creative and build on their psychological resources to improve their problem-solving abilities. Research has shown that positive emotions are associated with a range of positive outcomes, including optimism and resilience (Youssef-Morgan & Luthans, 2013), as well as greater levels of cooperation and more constructive conflict management (Barsade, 2002). It follows that positive leadership is likely to be associated with a range of positive outcomes (i.e. impacts). A brief review of the leadership impact literature will be discussed next.

1.5 The impact of leadership behaviour

The growing interest in leadership as a research topic has arguably been motivated by the wide-ranging outcomes that leadership behaviour has been purported to influence. Research studies carried out across healthcare settings have attributed leadership to several individual and organisational outcomes, which contribute to the creation of a quality healthcare service (Gilmartin & D'Aunno, 2007; Wong, Laschinger, & Cummings; 2010). The sections that follow will provide a brief overview of the research into both the direct and indirect impacts of leadership. There is a deliberate focus on the positive or beneficial impacts of more positive forms of leadership behaviour. This is in line with other recent research; Walumbwa et al. (2010b) highlighted that there is more focus on positive approaches to leadership over recent years and that this has come about because of growing recognition of the role of positivity in employee health, well-being and performance (Gardner et al., 2005; Luthans et al., 2007a). Woolley, Caza and Lester (2011) highlight that authentic leadership theory is about “positive and developmental interactions between leaders and followers” (p.438), and subsequently, much of the focus in the research literature in this area explores the impact this leadership style has on the positive organisational behaviours and psychological capital of their followers (Luthans et al., 2007b).

1.5.1 Follower health and well-being

Poor or unsupportive leadership behaviour has been associated with poor psychological and physical health outcomes (Wager, Fieldman, & Hussey, 2003). Attempts to define poor or unsupportive leadership have generally fallen into two categories (Einarsen et al., 2007). Some see poor leaders as being passive and lacking good leadership skills. These leaders may not intend to cause harm, but they tend to be ineffective through their laissez-faire style of leadership and their failure to actively promote and protect staff well-being and performance (Bass & Avolio, 1994; Howell & Avolio, 1993; Lewin, Lippett, & White, 1939; Neuman & Baron, 2005). Conversely, poor leadership may be

an active process; the leader may demonstrate negative and harmful behaviours, or act in an aggressive manner which subsequently impacts on the performance and well-being of their followers (Kelloway, Sivanathan, Francis, & Barling, 2005).

The well-being of followers is not just about physical health but can be broadly defined as positive or negative feelings (Warr, 2006) which, although related, are independent constructs (Karademas, 2007). Similarly, Liu, Siu and Shi (2010) distinguish between three different types of well-being; positive affective (including attitudes to work, such as job satisfaction), negative affective (including perceived stress) and physiological well-being (symptoms of stress). They noted that the development of positive psychology (e.g. Peterson, 2006; Seligman, 2002) has led to a growing interest in understanding positive forms of leadership and positive leader outcomes (Sivanathan et al., 2004). Therefore, whilst it is acknowledged that all aspects of well-being are equally important, the positive nature of recent leadership theories, including authentic leadership, provide the opportunity to explore more positive well-being outcomes, including follower attitudes. Job satisfaction and organisational commitment form two key positive follower attitudes that leaders can influence and will be discussed next.

Job satisfaction

The significant influence that leaders can have on employee attitudes has been widely reported in the research literature (Chiok Foong Loke, 2001; Gardner et al., 2005; Giallonardo, Wong, & Iwasiw, 2010; Leroy, Palanski, & Simons, 2012). Attitudes can predict patterns of behaviour (Fishbein & Ajzen, 1975), which may explain why attitudes towards the job are commonly used as an indirect measure of organisational performance (Judge, Thoresen, Bono, & Patton, 2001). Leader behaviour has been shown to influence employee job satisfaction (Walumbwa & Lawler, 2003; Walumbwa, Wang, Lawler, & Shi, 2004), which can also positively influence patient satisfaction (Wong & Cummings, 2007) and reduce employee sickness absence and turnover

(Kuoppala et al., 2008). A study by Wong and Laschinger (2013) found that authentic leadership predicted employee job satisfaction, and that this relationship was mediated by the sense of empowerment employees perceived in their work environment.

Other researchers have highlighted that the role between job satisfaction and performance may be reciprocal; performance can increase with greater levels of satisfaction at work, but likewise satisfaction at work can increase following good performance (Judge et al., 2001).

Organisational commitment

Research has also established a relationship between leadership and follower levels of organisational commitment (Walumbwa & Lawler, 2003; Walumbwa et al., 2004). A study by Gatling, Kang and Kim (2016) found that authentic leadership positively influenced employee organisational commitment, which in turn mediated turnover intentions. Commitment has been well established in the organisational literature as being a key determinant of behaviour and ultimately performance (Meyer et al., 2002). In addition, researchers have shown that organisational commitment may also promote greater employee satisfaction (Meyer et al., 2002).

Despite the apparent similarities between job satisfaction and organisational commitment, researchers have shown that they are distinct concepts. This distinction was put forward by Tett and Meyer (1993) in a meta-analysis conducted over 20 years ago. They reviewed over 150 studies and showed that job satisfaction and organisational commitment contributed uniquely to staff turnover, with job satisfaction more closely related to turnover intentions and organisational commitment associated with actual turnover. More recent research by Meyer, Stanley, Herscovitch, & Topolnytsky (2002) has argued that it is possible for an individual to feel positive about their organisation, whilst being dissatisfied in their specific job within the organisation. In this sense, organisational commitment and job satisfaction are two related but distinguishable constructs, that will have different

consequences. Meyer et al. (2002) reported strong correlations between aspects of organisational commitment and job satisfaction but concluded that the correlations were not strong enough to raise concerns over construct redundancy. Research supports the view that supportive leadership can have a positive impact on both job satisfaction and organisational commitment, whereas the opposite relationship is found for unsupportive styles of leadership (Tepper, 2000).

The research outlined here suggests that leaders can influence follower health, well-being and performance. However, there is a lack of research exploring the impacts associated with the specific leadership styles that have been outlined within existing leadership theories. From a theoretical point of view, this becomes necessary to validate a leadership construct (e.g. authentic leadership) and to identify its nomological network (Cooper et al., 2005). For this research study, there is a focus upon the construct of authentic leadership, and therefore the existing research on the impacts of authentic leadership on follower health and well-being will be discussed next.

The impact of authentic leadership

In addition to the wider leadership literature, research into authentic leadership has consistently shown the beneficial impact that this type of leadership has on followers' health, well-being and performance (Avolio et al., 2004; Gardner et al., 2005). Subsequently, it is increasingly recognised as one of the most influential theories of leadership. Followers do not follow blindly; they have a good understanding of the leader and their strengths and weaknesses (Shamir & Eilam, 2005). Research demonstrates that through their openness, authentic leaders promote mutual trust (Goldman & Kernis, 2002), and allow followers to identify with their leader and feel a sense of belonging (Ilies et al., 2005). Identification with the leader will also enhance followers' sense of identification with the organisation. In addition, authentic leaders can increase followers' experience of positive emotions and well-being through the high-quality relationships they build (Avolio et al., 2004). Subsequently they

help to provide a positive work environment for their followers. Positive emotions and strong relationships are then reciprocated by their followers, which helps to enhance the well-being of both leaders and followers.

Despite this promising evidence, Gilmartin and D'Aunno (2007) highlight that authentic leadership is under-researched in healthcare settings and therefore supports the need for further research in this area. One study that has been carried out by Wong et al. (2010) found that nurses who reported higher levels of authentic leadership also reported greater trust, felt more engaged at work and believed that there was better quality care. Similarly, another healthcare-based study by Wong and Giallonardo (2013) found that authentic leadership was associated with greater levels of trust in management, more positive experiences at work and better patient outcomes. Individuals led by an authentic leader also felt more empowered, which was shown to result in greater performance improvements. Although there is some convincing evidence, there is a need for further research to develop our understanding of the impact of authentic leadership on the health and well-being of followers. The relationship between leadership and follower behaviour and performance will be discussed next.

1.5.2 Follower behaviour and performance

There is evidence to suggest that we are more likely to help others if we believe that we will benefit from it. This is known as the norm of reciprocity; doing a positive action in return for a positive reaction (Gouldner, 1960), and taps into the concept of social exchange (Blau, 1964). It follows that a leader who is trusted, respected and supports their followers will see their followers reciprocate in beneficial ways. When employees feel that they are supported and valued, this has been shown to increase levels of organisational commitment (Allen & Shanock, 2013), which can in turn enhance performance. Similarly, positive exchanges or relationships between the leader and their followers have been shown to increase citizenship behaviours; where employees fulfil and often go beyond what is expected of them and their role

(Wang, Law, Hackett, Wang, & Chen, 2005). Specifically, authentic leadership is recognised as a positive leadership approach that is characterised by positive exchanges and where the leader develops their followers to reach their full potential (Gardner & Schermerhorn, 2004). Scholars and practitioners agree that authentic leaders can positively influence the attitudes and behaviours of their followers, which contributes to improved individual and organisational performance (Avolio & Gardner, 2005; George, 2003). Authentic leaders also encourage creativity and innovation in their followers, which is critical for maintaining the competitiveness of the organisation (Rego, Sousa, Marques, & e Cunha, 2012).

Furthermore, research has highlighted the role of the psychological contract in explaining how leadership can impact on follower behaviour and performance. The psychological contract refers to the beliefs held by employees about the agreements made between them and the organisation (Robinson, Kraatz, & Rousseau, 1994; Rousseau, 1989). The psychological contract offers employees a mental model of the employment relationship in terms of what they should be doing and what they can expect from the organisation in return. The ongoing change and uncertainty that organisations have faced over recent years has meant that many organisations have had to adapt their psychological contract and the leader plays a key role in determining how this is received (Cassar, Bezzina, & Buttigieg, 2016).

Evidence suggests that the employee's perceptions of leadership significantly affect their levels of satisfaction with the psychological contract (Chu & Fu, 2005). Essentially, leaders act as a representative of the organisation (Coyle-Shapiro & Kessler, 2000). Therefore, the leader's interpretation and enforcement of the psychological contract becomes important, and their actions and behaviours heavily influence how the employee feels in terms of what the organisation offers to them. Subsequently, if the employee feels that the organisation is meeting their side of the bargain then they are likely to feel happier and more satisfied and supported at work (Coyle-Shapiro & Kessler, 2000). As a result, employees are more likely to take responsibility and

ownership for their work, use their initiative and act in a way that is in the best interests of the organisation. When the psychological contract is fulfilled, then research suggests that this can improve role performance, citizenship behaviour directed at the organisation and citizenship behaviour directed at the individual (Turnley, Bolino, Lester, & Bloodgood, 2003). It follows that a leader who breaches this psychological contract can expect to see less commitment and engagement from their staff and lower levels of performance.

Combined, the research highlights that leaders can influence the way in which followers feel and think about their place of work, which subsequently impacts on how they perform. However, it should be acknowledged that leaders may also influence the way in which followers think about themselves and the personal beliefs and judgements they hold. Essentially, through their behaviour and the environment they create, leaders can influence the personal components of their followers. This will be briefly discussed in the following section.

1.5.3 Follower personal components

Research has identified that authentic leaders can positively influence the psychological capital or personal components (e.g. self-efficacy, hope, resilience and optimism) of their followers (Yammarino, Dionne, Schriesheim, & Dansereau, 2008). This is achieved through their behaviour and through their example of having high levels of psychological capital themselves. Authentic leaders encourage their followers to be self-regulated, and they promote individual development which fosters follower self-efficacy and hope (Woolley et al., 2011). Psychological capital differs to human capital in the sense that it is not the things you possess that define you (i.e. knowledge, education), but it is about the psychological aspects and what you can become (Luthans, Avey, Avolio, & Peterson, 2010). Research has shown that the components of psychological capital are associated with a variety of changes in attitudes, behaviours and performance (Luthans et al., 2010). Higher levels of self-

efficacy are associated with greater perseverance and a willingness to take on new and challenging tasks, which helps to foster innovative thinking and creative solutions (Choi, 2004). Similarly, individuals who are hopeful, optimistic and resilient tend to have a more positive outlook on life, which increases their experience of positive emotions. This results in the broadening of the individual's thought-action repertoire, which is conducive to creative ways of thinking and problem solving (Fredrickson, 2001), and promotes greater levels of performance. A meta-analysis conducted by Avey, Reichard, Luthans and Mhatre (2011) concluded that psychological capital has a significant and positive impact on employee attitudes towards the job, behaviours and performance.

In summary, this section has outlined some of the ways in which leaders can positively and directly influence the health, well-being, performance and personal components of their followers. However, it is important to recognise that leaders can also influence follower outcomes indirectly, through mediational factors. The indirect impacts of leaders' behaviour on follower outcomes will be briefly explored next.

1.6 The indirect impact of leadership behaviour

Whilst there is general agreement that leaders can have a significant impact on a range of outcomes, there is growing recognition that the impact leaders have may not be direct, but instead can be explained through mediational processes. This section briefly discusses some of the mechanisms through which leaders have an impact.

1.6.1 The mediating role of the perceived environment

The relationship between leader behaviour and follower outcomes may, in part, be explained by the influence leaders have over the way followers perceive their work environment. Perceptions play an important role in the leader-follower relationship (Hollander, 1992). The leader is seen to represent the organisation to their followers; early research showed that the views and

values expressed by the leader can be seen to reflect the views and values of the organisation (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Eisenberger et al., 2002; Levinson, 1965). Essentially, employees view the treatment and support from their leaders as being indicative of the support from the organisation (Shanock & Eisenberger, 2006). Follower perceptions of the intention behind the leader's actions can influence their thoughts about the organisation's intentions (Levinson, 1965). This will subsequently impact on the way in which followers perceive the overall work environment and can determine how they react. For example, ethical leadership behaviours, such as those displayed by authentic leaders, have been shown to create an organisational culture that subsequently promotes ethical behaviour amongst its employees (Zhu, May, & Avolio, 2004).

Research into authentic leadership has highlighted the influence they can have on followers' perceived work climate (Gardner et al., 2005), and that the perceived work climate may play a mediating role in the relationship between authentic leadership and follower well-being at work (Nelson et al., 2014). The concept of a 'work climate' has been operationalised in different ways; however, drawing on research from a healthcare context this can refer to leaders' ability to influence the level of autonomy and control that their followers perceive to be available within their workplace, as well as the quality of working relationships and the support that is offered (Aiken & Patrician, 2000). Amabile, Schatzel, Moneta and Kramer (2004) point out that although it may seem intuitive, there is very little empirical research which explores the relationship between leader behaviours and subordinate perceptions. However, two aspects of the perceived work climate that have been identified in the leadership process; control and support, will be briefly explored next.

Autonomy/control

The importance of autonomy and control is highlighted within self-determination theory (Deci & Ryan, 1985), as well as being fundamental to our efficacy beliefs and sense of personal agency (Bandura, 1977a, 1986). It refers

to the sense of choice and freedom that individuals feel that they have and is one of the innate psychological needs that, when satisfied, can promote intrinsic motivation, self-regulation and well-being (Ryan & Deci, 2000). Liden, Wayne and Sparrowe (2000) highlight that our psychological sense of control and empowerment may be influenced by external social and organisational factors, including the leader. Studies have shown that when instructors show support for autonomy, students achieve greater performance outcomes (Black & Deci, 2000). In addition, autonomy support from managers has been associated with positive work-related outcomes and attitudes, including job satisfaction and organisational commitment (e.g. Baard, Deci, & Ryan, 2004; Deci, Connell, & Ryan, 1989). Similarly, Cooper and Cartwright (1997) showed that leaders can influence the perceived autonomy of their followers. Positive transformational styles of leadership may help to build environments that are characterised by high levels of control as they use autonomous rather than controlled goals. They empower and motivate their followers through building self-efficacy and aligning values (Bono & Judge, 2003). Similarly, researchers have also argued that authentic leaders support follower self-determination through the conditions they create and through their ability to build a two-way relationship and involve followers in decision making (Avolio et al., 2004; Ilies et al., 2005). Control and empowerment are particularly important as they are associated with employee feelings of competence or self-efficacy (Zhu et al., 2004), which, as previously established, is a key self-regulatory process and determinant of subsequent behaviour. A study carried out on nurses found that the relationship between authentic leadership and follower outcomes (e.g. job satisfaction) was mediated by followers' sense of empowerment (Wong & Laschinger, 2013). Therefore, it follows that if leaders can create an environment where followers feel empowered, they are likely to see several positive outcomes associated with the satisfaction of this basic psychological need.

Arguably, one of the most widely cited researchers on the topic of perceived control at work is Karasek (1979). In their Job Demands-Control (JDC)

model of workplace stress, Karasek argued that demands alone do not necessarily cause job strain; instead it is the combination of demands and a lack of job control. There are two hypotheses; the strain hypothesis predicts that negative health and well-being outcomes are associated with high strain situations which are characterised by high demands and a lack of control. Essentially, when individuals have a perceived lack of control, then they are unable to action the demands placed upon them and this contributes to the experience of job strain. This has serious implications for employee health; Collins, Karasek and Costas (2005) found that low decision latitude (low control) at work is associated with elevated job strain and an increased risk of cardiovascular disease. In addition, a large-scale research study conducted by Karasek (1990) on a sample of over 8000 Swedish workers found a relationship between task control (during a job reorganisation process) and lower levels of ill health. The second hypothesis argues that control plays a buffering role and can moderate the impact of high demands. The evidence to support this hypothesis has been less consistent, but in a review carried out on studies between 1979-1997, approximately half (15) of the studies provided evidence for the buffering effect of control (Van Der Doef & Maes, 1999).

This research has important implications for leaders; it suggests that to prevent job strain amongst their staff and promote staff engagement, leaders need to empower their followers and enhance their levels of autonomy at work (Van Yperen & Hagedoorn, 2003). The JDC model was later developed to incorporate the crucial role that support plays in this relationship (Johnson & Hall, 1988). The influential role that leaders play in followers' perceptions of support will be discussed next.

Support

The influence that leaders can have on their followers' perceptions of the work environment goes beyond perceptions of control. They can also help to develop a positive work environment, characterised by high levels of support (Cummings & McLennan, 2005). Supportive leadership has been shown to

predict perceived safety (May, Gilson, & Harter, 2004); through their behaviour, leaders can create a psychologically safe environment for their followers which allows them to feel more engaged (Schaufeli & Bakker, 2004). In particular, authentic leaders can help to develop relationships characterised by trust and respect; where individuals are free to express themselves (Macik-Frey, Quick, & Cooper, 2009). Through their demonstration of balanced processing and relational transparency, they create an open and supportive environment for their followers (Kahn, 1990).

Organisational support theory (Eisenberger et al., 1986; Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001) states that when individuals perceive there to be greater support available within the organisation, then they are more likely to be committed to the organisation. The importance of support has also been recognised within models of workplace stress. Johnson (1986) recognised the damaging role of isolation strain (i.e. low social support), combined with high demands and low control for employee health and well-being. An early study carried out by Johnson and Hall (1988) found that the combination of low control, low support and high demands was associated with a greater prevalence of cardiovascular disease, even after controlling for age and other confounding factors. Subsequently, Karasek's (1979) JDC model was extended to form the 'Job Demands-Control-Support' (JDCS) model, which includes control and the buffering role of support in the relationship between workplace demands and health outcomes.

The importance of support and control within the work environment have been identified in a recent study conducted by Fallatah and Laschinger (2016). They found that both collaborative relationships and autonomy were associated with graduate nurses' job satisfaction. Similarly, Read and Laschinger (2015) carried out a study on nurses and using a longitudinal design they found that empowerment helped to explain the relationship between authentic leadership and nurses' social capital. In addition, social capital reduced their mental health symptoms and increased their job satisfaction. Essentially, the research suggests that leaders who empower their followers

and create a supportive environment are likely to have a happier and healthier workforce. Therefore, these become important areas to explore as part of the leader-follower relationship.

Other studies have also identified the importance of the perceived environment on employee health and well-being; including attitudes towards work (Kelloway et al., 2005; Kuoppala et al., 2008; Skakon, Nielsen, Borg, & Guzman, 2010; Sparks et al., 2001), as well as performance, innovation and creativity (Amabile et al., 2004; Barling, Christie, & Hopton, 2011; Janssen, 2005). Within the context of healthcare organisations, studies on nurses have shown that perceptions of the work environment and climate can go on to influence their well-being, including their enjoyment and satisfaction at work (Warshawsky & Havens, 2011).

The evidence suggests that leaders can have a significant impact on the way in which the work environment and work climate are perceived by their followers. In addition, there is growing reason to believe that followers' perceptions of the work environment may help to explain the relationship between leader behaviour and follower outcomes, including their personal resources. However, despite the clear argument for leader and follower outcomes being mediated by work characteristics, there is a lack of research evidence which properly tests and explores this (Nielsen et al., 2008), particularly in UK healthcare settings. Avolio (2007) argues that there is a need for further research to understand how leaders can create the conditions (i.e. the environment) within the workplace and to identify the relationship between the perceived environment and the cognitions (i.e. personal components) of leaders and their followers.

Existing studies have demonstrated the positive relationship between personal components, social support and autonomy in the work environment (Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008). In a study carried out by Woolley et al. (2011), it was found that the relationship between authentic leadership and follower psychological capital was partially mediated by the positive work climate that followers experience. The study was based on

over 800 responses to a survey collected in New Zealand as part of a stratified random sample. Woolley et al. (2011) argued that the findings might be explained by the authentic leader's value-led behaviour influencing the overall organisational climate adopted by those within it. Followers internalise the leader's values and subsequent climate, and therefore they are likely to experience higher levels of psychological capital themselves. Similarly, a study by Gooty, Gavin, Johnson, Frazier and Snow (2009) provides support for the role of transformational leadership on psychological capital and suggests that it is the context the follower finds themselves in, which is created by the transformational leader's behaviour, that ultimately influences their psychological capital. The study was conducted in the United States on a marching band who had recently appointed a new leader and involved nearly 200 participants. Although the unique sample arguably makes it difficult to generalise the results from this study to healthcare settings, it provides some initial support for the idea that leaders can create a positive environment that fosters the development of the psychological capital of their followers.

The importance of developing followers' personal components cannot be overstated. There is research evidence demonstrating the relationship between psychological capital and a range of desirable employee outcomes, including attitudes towards the job (Larson & Luthans, 2006). The relationship between psychological capital and employee attitudes can be explained by the way psychological capital helps to promote positive expectations of the future. It encourages individuals to believe in their ability to overcome challenges and so they are more likely to be satisfied and committed to the work they do (Luthans et al., 2007a, 2007b; Newman et al., 2014). Despite being neglected in earlier research, this is now emerging as an important aspect of leadership theory (Avolio, 2007).

However, there is a lack of research into the conditions that influence these positive states at work (Hackman, 2009). Luthans et al. (2008) suggest that the experience of a supportive climate can promote the development of psychological capital; individuals who feel supported may be more hopeful,

resilient to setbacks, optimistic and confident in their abilities. For example, an individual who makes a mistake in a supportive environment is less likely to fear being blamed and punished for their actions, and therefore this helps to promote or maintain their confidence in their abilities (self-efficacy) and levels of hope. The opposite pattern might reasonably be expected in an unsupportive work environment; where staff operate in fear of being blamed and punished.

Similarly, perceived control is associated with internal attributions and a greater sense of human agency, which is a necessary condition for building self-efficacy beliefs; a key personal component (Luszczynska & Schwarzer, 2005). When an individual does not believe that they have control over their environment, then this will negatively impact on their self-efficacy (Bandura, 1993). We need to believe that we have control over our work environment to believe in our ability to master challenges and demands (Bandura, 2000b; Luszczynska & Schwarzer, 2005). It follows that a leader who can instil a sense of control in the workplace is likely to see the positive impacts of this on their followers' personal (psychological) resources.

This research aims to explore the relationship between authentic leadership behaviour and follower outcomes, including their personal components and attitudes towards the job. As part of this, the mediating role of the perceived work environment will be considered.

Specifically, the second research question that will be addressed within study I is outlined here:

Research question 2: Do perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes?

1.7 Summary

In summary, this chapter has provided a brief overview of how leadership theory has evolved. There is growing recognition that leadership is not about the fixed traits or characteristics of the individual, but instead effective

leadership is about the demonstration of supportive leadership behaviours and the positive relationship the leader builds with their followers. As summarised by Pendleton and Furnham (2016), the emerging perspective of leadership is of; “leaders who seek to work *with* their employees: creating conditions in which their people love to work and in which as a consequence, those people choose to work harder and more effectively” (p.9).

However, existing models and theories of leadership have been criticised for failing to properly consider the context and environment in which the leader operates, and arguably the impact of leadership behaviour has been oversimplified (Avolio & Bass, 1995; Bass & Stogdill, 1990). In addition, it is only with the development of authentic leadership theory in recent years that any consideration has been given to the role of the leader’s personal components (e.g. cognitions, beliefs) and how the leader can influence the personal components of their followers. This review has also highlighted an area that is arguably under-researched; the indirect relationship between leadership and follower outcomes (Nielsen et al., 2008). There is evidence to suggest that leader and follower outcomes may be explained or influenced by environmental components, including perceptions of support and control. Failure to consider or explore the indirect impact of leadership may arguably lead to a limited understanding of the role and level of influence that leaders can have. As such, this becomes an important research focus within this thesis.

This also supports a social cognitive perspective of leadership; essentially leadership is best understood by exploring the combination of personal, environmental and behavioural components and the possible mediating relationships that exist. It is argued that by applying a social cognitive perspective, this research will extend existing theories and offer a more integrated and comprehensive understanding and framework of the leadership process. The specific research questions relating to this first study have been outlined within the relevant areas of this literature review but are also displayed in Figure 1.3.

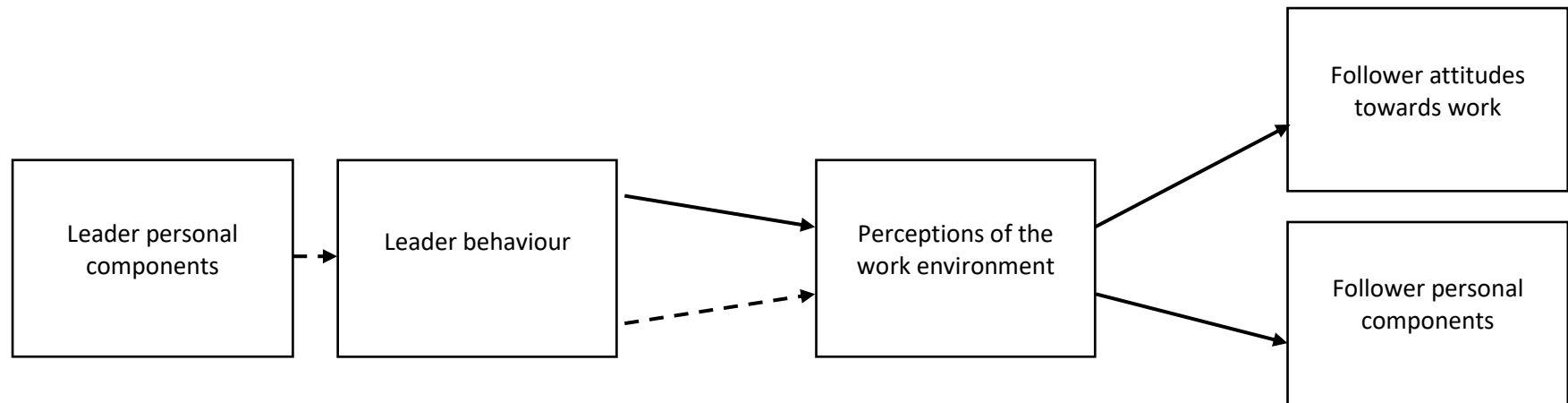


Figure 1.3: Study I research questions

--> Research question 1 ('leader' model)

————> Research question 2 ('leader-follower' social model)

In addition, the existing literature suggests that attempts to increase authentic leadership behaviours and the psychological capital (personal components) of leaders are likely to have positive impacts on employees and the organisation (Avolio & Gardner, 2005; Luthans, Avey, Avolio, Norman, & Combs, 2006b). The second study within this thesis evaluates a training intervention which aims to enhance leader self-efficacy and behavioural awareness through promoting a social cognitive approach to understanding leadership. The relevant research literature and specific research questions for study II will be discussed within the following chapter.

CHAPTER TWO: DEVELOPING LEADERS

2 Overview

Within this chapter, existing leadership interventions are reviewed, including interventions within healthcare settings. The general training and evaluation literature will be explored to help inform the evaluation design and criteria utilised within this research. In addition, specific research questions will be identified.

2.1 Leadership interventions

As the previous chapter has highlighted, there is research evidence to support the view that leadership is associated with both individual and organisational outcomes (Avolio & Gardner, 2005; Gardner & Schermerhorn, 2004; Kelloway et al., 2005; Kuoppala et al., 2008; Mullen & Kelloway, 2009; Skakon et al., 2010; Sparks et al., 2001). Furthermore, the brief review of existing leadership theories highlights a shift in the way that leadership is understood; whereas early theories saw leadership as an entity and attributable to traits and characteristics of the individual, more recent theory acknowledges that leadership is a process (Hollander, 1992; Uhl-Bien, 2006). Specifically, study I within this research explores a social cognitive perspective of leadership, which incorporates personal, environmental and behavioural components that inform our understanding of leadership.

Building on this, the second study within this research aims to explore and test a common theme implied by all recent leadership theories; that leaders are made, not born. Positive leadership theories, including authentic and transformational leadership theories support this view by suggesting that an individual becomes a leader through the behaviours they demonstrate, the personal (psychological) states they develop and the relationships they build with others around them. This is also advocated by the social cognitive perspective of leadership that is explored as part of study I. In this sense,

effective leadership is increasingly seen as something that can be learned and developed.

A growing number of organisations are recognising the value of interventions which aim to promote supportive leadership behaviours and develop leaders' personal components. This is particularly pertinent over recent years; organisations have experienced a rising number of cuts to their workforce, which has made it increasingly necessary to help workers reach their potential (Goldstein & Ford, 2002). Leadership has fast become one of the most popular training topics (Conger, 1994) with the view that it can have a positive impact at both the individual and organisational level. Leadership interventions can influence the working conditions that employees operate in (Kelloway & Barling, 2010). Essentially, through developing supportive leadership behaviour, the leader can become a resource to their staff and create a more positive work environment for their staff to develop in and build their own personal components. Furthermore, leaders can arguably reduce the negative impact of workplace demands and increase motivation, which is likely to lead to a generally happier and healthier workforce (Bakker & Demerouti, 2007; Demerouti et al., 2001). Nyberg, Alfredsson, Theorell, Westerlund, Vahtera and Kivimäki (2009) go as far as to argue that the broad impacts resulting from leadership interventions also makes them suitable as wider workplace health interventions.

By definition, a leadership intervention involves manipulating leadership in some way and then examining the impact that this has on measured outcomes (Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009b). One of the most widely used interventions within organisations is training, which is defined as a methodical and organised approach to learning and development (Goldstein & Ford, 2002). However, the 2014-2015 Global Leadership Forecast which surveys over 13,000 leaders from across 48 countries has consistently found that less than half of leaders (37%) felt that the leadership development programmes within their organisation were effective (Sinar, Wellins, Ray, Lui Abel, & Neal, 2014). There is not enough empirical research into leadership

training, despite the abundance of discussion on this topic area (Avolio, Sosik, Jung, & Berson, 2003; Stoller, 2013). This concern is echoed by other scholars who have warned that the research into leadership development is minimal compared to other topic areas in the field of leadership (Avolio, 2007; Day, Fleenor, Atwater, Sturm, & McKee, 2014; Day, Harrison, & Haplin, 2008).

It is generally considered best practice for the content of any training intervention to be informed by theory; this helps to increase the likelihood that the training will be effective and makes it possible to explain the mechanisms behind any measured outcomes (James, 2011). Essentially, the way in which leadership is defined theoretically should be reflected in the way in which it is trained and the content of the intervention, as well as its evaluation. However, this is problematic as there is no single agreed definition of leadership (Shamir & Eilam, 2005) and the vast number of leadership theories poses a real challenge for practitioners who want to develop leadership training programmes. Ulrich, Zenger and Smallwood (1999) argued that definitions of leadership involve “confusing and often overlapping terms” (p.4); something which was initially highlighted by Yukl (1989). Yukl (1989) argued that when it comes to understanding leader effectiveness; “most of the results are contradictory and inconclusive” (p.253). Despite this statement being made almost 30 years ago, arguably the situation remains the same today. As a result, it is difficult to confidently outline the best approach for developing effective leaders.

However, there is some promising evidence of the impact of training interventions that are focused on developing positive forms of leadership. A brief review of some of the existing leadership training intervention studies is provided next.

2.1.1 Impact of leadership training

Several reviews have been conducted which attempt to evaluate the impact of training. A review of the organisational training literature concluded that some of the most effective forms of training are programmes that focus

on addressing interpersonal and cognitive skills (Aguinis & Kraiger, 2009). Another study carried out by Collins and Holton (2004) explored 83 intervention studies conducted between 1982 and 2001, with all types of research design included. They found that a growing number of training programmes utilise mixed methods. Although they found great variation in the effectiveness of training programmes, overall their findings show similar positive outcomes to earlier reviews by demonstrating that leadership training interventions have a moderate to strong effect (Cohen, 1992) on measured outcomes. This included knowledge (learning), expertise (behaviour) and system (subjective and objective performance) outcomes. The importance of effect size within the leadership training evaluation literature is well established, and researchers recommend a moderate to strong effect size to see a positive return on development investment (Avolio, Avey, & Quisenberry, 2010). However, it should be noted that effect sizes across studies are not necessarily comparable, since the authors may use different ways of grouping outcomes, and the criteria and source of studies included may differ.

In another study, Avolio et al. (2009b) highlight that much of the research on leadership and its impacts have been based on field research rather than experimental designs. To address this, they conducted a meta-analysis exploring different leadership theories and looking at experimental or quasi-experimental research that had been carried out. They focused on leadership interventions that had been evaluated in a way that made it possible to establish cause and effect and subsequently drew conclusions from over 130 usable studies, which involved over 11,000 participants. They found a small positive effect of leadership interventions on measured outcomes including affective, behavioural and performance outcomes. This finding was consistent across different types of intervention, organisation, leadership level, theoretical perspective and across different measured outcomes. This builds on the previous meta-analyses conducted by Burke and Day (1986) and Collins and Holton (2004), which found that overall, leadership training interventions can have a positive impact on a range of outcomes. However, it is important to

note that Avolio et al. (2009b) found that the effect for training interventions was not as strong as the effect found for developmental interventions. This may be explained, in part, by the fact that developmental interventions tend to last longer, and therefore may have a greater impact on outcomes that take time to change.

Further research by Avolio (2010) suggests that even modestly effective leadership training interventions may prove beneficial against the return on development investment. Avolio (2010) states that a one-day training course may return over 200% of the investment when you take into consideration the positive impact it can have on performance. However, Aguinis and Kraiger (2009) highlight the importance of recognising the broader impacts when trying to make a judgement about the success of a training programme, rather than focusing solely on performance measures. As part of their review, they recommend that researchers consider both the direct (e.g. innovation) and indirect (e.g. empowerment) indicators of performance before drawing any conclusions.

A recent study conducted by Packard and Jones (2015) evaluated a leadership training intervention that was delivered to 191 middle managers across eight organisations (human service agencies). The training covered several core topic areas of leadership, including; critical thinking skills, managing organisational change, managing accountability and coaching. The training intervention was specifically designed to increase the likelihood of the transfer of learning; for example, there was supervisory involvement at all stages including action planning. In addition, a follow-up session was arranged annually with delegates to recap or provide additional training based on the needs identified. The intervention was delivered over 12.5 days and the programme was run over 7 years. As part of the evaluation process, qualitative and quantitative data were collected from both leaders (delegates) and their supervisors through a multi-source feedback process. The evaluation methodology was based on Kirkpatrick's (1959) four-level evaluation model (reactions, learning, behaviour change and results). Data collection took place

at different time points (before training, after training, and 3, 6, and 12 months after training), and a total of 97 leaders completed both the pre-course and 12-month follow-up evaluation questionnaire. Outcome measures included self-efficacy and self-reported job performance, as well as supervisor ratings of the leader's performance. Results showed that leaders' self-efficacy increased over time and was positively associated with supervisors' perceptions of leaders' job performance. Interestingly, more positive changes in performance were reported by supervisors than by the leaders themselves, which highlights how the effectiveness of an intervention may be dependent on how it is assessed.

Despite this promising evidence, Packard and Jones (2015) acknowledged that there is still much to be learnt about the effectiveness of leadership interventions and pointed out several limitations of their study. Firstly, the training was evaluated over 7 years and so it is likely that other contextual or environmental components could have influenced the effectiveness of the training. As these were not considered as part of the evaluation process, it is difficult to confidently ascertain whether any changes in measured outcomes are due to the training itself, or other factors that have not been taken into consideration. In addition, the content and delivery of the training programme itself was subject to changes over this period, and therefore made it difficult to draw conclusions about the nature of effective training programmes.

A meta-analysis carried out by Skylar Powell and Yalcin (2010) explored the effectiveness of managerial training conducted within the private sector between 1952 and 2002. They identified 85 interventions with almost 5,000 participants. Studies were then grouped into decades and coded by outcome variables to enable an analysis of improvements in training effectiveness over time. The findings showed that the learning outcome consistently had the largest effect size when compared to outcomes relating to behaviour and results. This may suggest that whilst learning takes place, this learning is not necessarily applied to the job role to influence behaviour and performance. In addition, the effectiveness of training did not differ across the decades; moderate effect sizes were consistently reported. However, the meta-analysis

focused exclusively on training intervention studies within the private sector and therefore cannot necessarily be generalised to leadership training within public sector organisations, such as the NHS.

In summary, the available research suggests that leadership interventions can have a positive impact on a range of outcomes, which most commonly include; affective outcomes, learning, behaviour and performance. However, it should be noted that the way in which these outcomes are measured can differ from study to study, with subjective measures of behaviour and performance being commonplace. In addition, there is little research within the UK exploring the impact of interventions on healthcare leaders, despite the reported 'crisis' of leadership within this sector (Naylor et al., 2015). The existing research within healthcare settings will be discussed next.

2.1.2 Leadership training within healthcare settings

As briefly mentioned in chapter one, the NHS is a complex work environment that subsequently presents unique challenges for its leaders (The King's Fund, 2011). The environment is characterised by a lack of certainty and is largely at the mercy of decisions made by government and the amount of funding received through taxes. The reforms introduced by the government have added to the uncertainty and turbulence of the work environment and have put leaders in a position where they are being increasingly scrutinised and put under pressure to perform (Blackler & Kennedy, 2004). In addition, there are contradictions in what constitutes success; with business targets and goals appearing to be incompatible with critical outcomes for the patient (PIU, 2001). Other leadership challenges exist because of the inherent nature of the workplace; staff are directly or indirectly exposed to those in pain or in a life-threatening situation, which increases the likelihood of staff demonstrating high levels of anxiety and dysfunctional defence mechanisms compared to other work environments (Hinshelwood & Skogstad, 2000). Given the challenges that leaders face in the modern workplace, it is not surprising that

there is little agreement over how best to develop leaders (Edmonstone & Western, 2002), and especially leaders within the public sector (Blackler & Kennedy, 2004). The NHS Leadership Framework (NHS Leadership Academy, 2011) attempts to provide guidance for staff around leadership behaviours and the development and delivery of leadership training. However, Walia and Marks-Maran (2014) point out that its main limitation is the lack of evidence-base underpinning the framework. It is perhaps for some of these reasons that empirical research into the effectiveness of theory-driven leadership interventions within the NHS is lacking.

Some attempts have been made to explore the effectiveness of leadership interventions, with mixed results. A study carried out by Blackler and Kennedy (2004) involved the evaluation of a leadership programme for chief executives within the NHS. The programme adopted an action learning approach which encourages learning through reflection, debate and experimenting with new ways of working. The training itself was made up of a series of modules delivered to cohorts of 16 participants. Each module ran over several days, and the time between modules varied from 6 weeks to 4 months. The programme involved reflective approaches to looking at the self, as well as organisation and leadership skills. Evaluation evidence was initially gathered from the second and third cohorts through a meeting that was set up with 11 of the 32 previous participants and the programme commissioners. In addition, further evaluation evidence was collected through conducting telephone interviews with eight participants (29%) from the fourth and fifth cohorts. However, little information was provided about the process that was followed for carrying out the interviews and discussions, or how the information collected was analysed. Finally, further evaluation was conducted at the end of the programme's third year, which involved interviews with 15 previous participants from the first five cohorts. All discussions that took place focused on the impact of the training, and the interviews were recorded, transcribed and summarised, although there is little information about the process of

coding the interview data or the exact nature of the qualitative analysis that was followed.

The lack of information about the analytic techniques used within this study is concerning; it makes it difficult to confidently draw any conclusions about the impact of the training. In addition, the amount of time since the programme varied greatly amongst those interviewed (2 months to 26 months), which limits the comparability of experiences and the ability to draw general conclusions about the effectiveness of the training. However, the authors summarised that the data gathered showed that the training intervention enabled participants to take time out to reflect and learn from others. In addition, some participants felt that it made them more driven to persist with difficult tasks. Whilst the qualitative nature of this evaluation study can help to provide rich, descriptive information about the way in which training has an impact, it does have the disadvantage of being less reliable and difficult to compare with other studies. Therefore, this highlights that there is a need for further, systematic evaluation of leadership training within the NHS, with a focus on more quantifiable outcomes.

Another recent evaluation of a leadership programme within the NHS was carried out by Miller, Relph, Grimwood and Crooks (2016). The training was delivered within Cumbria Partnership NHS Foundation Trust between 2012 and 2013 and involved 100 leaders who took part in an introduction day, followed by four modules. The modules were very much tailored to the organisation and covered aspects of the organisational context, the values of the organisation and the role of the leaders within it. In addition, the training explored leadership styles and their impacts, and encouraged the leader to develop greater self-awareness in relation to their style of leadership. A survey was distributed at two different time points (9 months apart) and was used to explore the impact of the training at a general level, and from a professional capacity. The findings showed that leaders came away from the training feeling more capable of balancing their managerial and operational roles and reported greater knowledge about the organisation. The data showed a shift in scores

after the training for skills and aptitudes; these were scored as being much higher in relation to their professional job roles than they were prior to the training. When comparing 'general' self-ratings and 'professional' ratings, little difference was found in relation to the scores for confidence and communication skills. However, resource management and conflict management were found to be stronger for the general assessment, compared to the scores for their professional work-based assessments. The overall pattern of results showed that the general self-assessments of individuals remained relatively stable, however their work-based professional assessments saw substantial and significant improvements after the training. Therefore, the findings suggest that training interventions can have positive impacts which extend to the leader's professional role and their skills and aptitudes.

Research conducted by Stoller (2013) explored the impact of a leadership training programme which has been run at the Cleveland Clinic in the United States for over 20 years. Although this paper was intended to be a commentary rather than a formal evaluation, it did highlight several interesting recommendations for effective leadership interventions within healthcare settings. Drawing on the experiences of this programme, they argued that leadership interventions should teach delegates about the nature of good leadership, and provide the opportunity to test and receive feedback on this within a safe environment. They also recommended that leadership programmes should aim to develop a networking community to help individuals to work collaboratively to promote continuous learning. However, they concluded by commenting that there are still many unanswered questions around leadership training within healthcare settings, and that more empirical research is needed in this area. Furthermore, this study took place outside of the UK, and so there may be cultural differences which may impact on how generalisable these results are to healthcare organisations within the UK.

A systematic review of the literature on physician leadership development programmes was conducted by Frich, Brewster, Cherlin and

Bradley (2014). Using strict eligibility criteria, 45 studies were included and explored. The programmes used a range of methods, including lectures, interactive group work, action-based learning, role play and multi-source feedback. However, most programmes were based on lectures and group work. They found that only half of the studies included used a pre-course, post-course evaluation design and the majority of evaluation studies failed to consider system (organisational) level outcomes, or the impact on self-awareness. In conclusion, they stated that there is a need for further training evaluation research which explores new tools and methods of learning, and where the training adopts a more interactive approach to promoting greater self-awareness in leaders. In addition, they argued that there is a need for further research which explores the mechanisms of change brought about by a successful leadership intervention.

This brief review of the literature highlights that leadership interventions are under-researched within healthcare settings. This is concerning given that the NHS is the largest employer within the UK and leadership has been highlighted as playing a crucial role in helping to overcome some of the challenges it faces (Lee, 2010). There is clearly still a need for rigorous evaluation of leadership interventions within this sector. However, another apparent gap within the research literature is the lack of theoretically driven leadership interventions. It is to this that this review will now turn to.

2.1.3 Theory-based leadership development

As previously highlighted, the current literature on leadership interventions has been subject to much criticism. Training and evaluation is seldom based on theory (Liang, Bernhardsson, Vernooij, Armstrong, Bussi res, Brouwers, & Gagliardi, 2017), and therefore it is difficult to explain the mechanisms behind any reported training outcomes. In addition, training programmes tend to focus solely on the individual leader and ignore the wealth of research and theory which shows that leadership is influenced by the interaction with the social and organisational environment (Day, 2000). Alimo-

Metcalfe and Lawler (2001) highlighted that too many leadership development programmes are based on 'great man' heroic perspectives of leadership and may consciously or unconsciously promote this approach to leadership amongst the training participants. Where theory is used to guide interventions, practitioners may promote the theory blindly without any evaluation of the proposed causal links or any prior testing of the theory in the real world (Avolio & Gardner, 2005). As leadership theory has evolved so much over the years, there is a danger of organisations training their leaders using outdated leadership approaches, which may not be suited to the modern work environment (Kezar, 2009).

In particular, there is a noticeable absence of research evidence exploring the development of authentic leadership (Baron & Parent, 2015). This is despite it being perhaps the most widely discussed theory in recent years. Studies that have been carried out have provided a mixed picture over whether attempts to train and develop authentic leaders are effective (May et al., 2003). In addition, many studies have been conducted outside of the UK and in different cultural and societal contexts. Therefore, it is difficult to determine whether the same effects would be found in the UK or whether the concept of authenticity may differ (Cooper et al., 2005). Although authentic leadership is a relatively new and developing concept, this lack of research into its development is surprising as a key part of authentic leadership theory is the idea that it can, and should, be trained and developed within organisations (May et al., 2003). However, Cooper et al. (2005) argue that this may be explained by the fact that the construct needs to be better defined, outcomes should be predicted, and its discriminant validity assessed before establishing whether it is something that can be developed through training. They highlight the need for a well-established measure of authentic leadership to be able to confidently evaluate an intervention which aims to promote this style of leadership. This is challenging as the concept of authentic leadership is multi-dimensional, and incorporates an awareness of the context that the leader operates in, as well as behaviours and psychological states of the leader. Whilst

initial attempts to define and measure authentic leadership have been made, there is undoubtedly a need for further work in this field.

One attempt to explore the development of authentic leadership can be seen in a study by Baron and Parent (2015). They conducted 24 semi-structured interviews with leaders from a Canadian consultancy who had taken part in a leadership training programme. The programme focused on authenticity, building relationships, understanding the impact of leadership behaviours, individual and follower development and finally, getting results. The programme took place over 3 years and involved 5 days of training, three times a year. Thematic content analysis was performed, and the findings suggest that all components of authentic leadership were developed following attendance at the training programme, although internalised moral perspective was reported the least of all the authentic leadership components. Leaders indicated that the training had led them to engage in more conscious behaviour and develop a greater awareness of their emotions, needs and values. They also reported feeling more aware of the impact of their behaviour on others. This was reinforced by their ability to try out these behaviours to consolidate their learning. The ability to recognise the positive impact of their behaviours was identified as being crucial to integrating these behaviours and adopting them back in their job role. The qualitative nature of this study allowed for a deeper understanding of the mechanisms through which the training can have a positive impact. However, Baron and Parent (2015) also acknowledged that there are limitations with this, and the fact that only one researcher analysed the results could raise concerns over the subjective nature of the findings. Once again, this further highlights the need for more quantifiable evaluation research to identify the impact of authentic leadership interventions against relevant theoretical criteria.

Authentic leadership theory holds leader self-awareness, self-regulation and positive modelling as being central to the leadership process (Avolio & Gardner, 2005). Through these mechanisms, the leader can have a positive impact on their followers, which in turn contributes to improved performance

and positive well-being outcomes (Avolio & Gardner, 2005). Considering these mechanisms, it could be argued that increased awareness (learning) of the supportiveness of leadership behaviours and their impact should be a key outcome of a leadership training intervention which aims to promote positive and authentic leadership behaviours. Whilst many leadership training interventions look to assess the impact on leader behaviour, this arguably fails to take into consideration the fact that behaviour change is unlikely to be instant (Prochaska, Redding, & Evers, 2013), and is likely to be influenced by other (e.g. environmental) factors. In addition, the tendency of researchers to rely on self-report measures of behaviour change can limit the utility and validity of this measure of training impact (Burke & Day, 1986). Therefore, assessing awareness of the supportiveness of a range of behaviours following a training intervention may overcome some of these issues. Authentic leadership theory implies that a leader can use this increased awareness as a motivator to reduce any discrepancies between their actual behaviour and the positive behaviours that they aspire to. Essentially, training which facilitates awareness of supportive leadership behaviours will encourage the leader to reflect and understand themselves better. This will contribute to the continuous and emerging process of self-awareness that plays a key role in authentic leadership (Avolio & Gardner, 2005) and subsequently influence their behaviour. The motivation to change behaviour in a positive way can be explained by the strong ethical and moral perspective of the authentic leader as well as their personal values and convictions. Change is made possible by their high levels of self-awareness and self-regulation. The importance of awareness is also supported by the transtheoretical model of behaviour change, which outlines several stages in the process of changing behaviour, including recognising the need for change (Prochaska & Velicer, 1997).

Therefore, within study II of this research, awareness of supportive leadership behaviours will constitute one of the key outcomes of the evaluation of a leadership training intervention. Specifically, this study will look to address the following research question:

Research question 1: Can leaders be trained to have greater awareness of the supportiveness of different behaviours?

2.1.4 Evaluation criteria

Theoretically driven interventions can also inform the specific criteria to be used to establish the impact of the training. The researcher needs to establish relevant individual and organisational goals and measures of success (Goldstein & Ford, 2002). However, Hiller, DeChurch, Murase and Doty (2011) highlight that within the leadership literature, there is still uncertainty surrounding the most appropriate choice of criteria. Researchers need to be careful to avoid what has been termed as ‘criterion contamination’ (Goldstein & Ford, 2002). This refers to criteria that may include irrelevant elements other than the construct identified and being measured; therefore, making it difficult to draw conclusions about whether the training is responsible for the outcomes or whether this is due to other biases that are present. For example, performance of trainees may be contaminated by differences in trainees’ working conditions or ratings of their performance may be affected by irrelevant personal characteristics. It follows that careful consideration needs to be given to the criteria against which to evaluate training.

To establish the most appropriate criteria, it is best practice to consider the theoretical background on which the programme is based (Tannenbaum & Yukl, 1992). Leadership theories outline how the process of leadership can influence the perceptions an individual has of themselves, the organisation and others around them. It follows that leaders can influence the attitudes individuals hold, including their job satisfaction and commitment to the organisation (Giallonardo et al., 2010; Walumbwa et al., 2004). Leaders also influence performance outcomes, as well as followers’ emotions, behaviours and cognitions, and these outcomes may extend to the team or organisational level (Hiller et al., 2011). Whilst most leadership programmes tend to focus on the effect the leader has on their followers, Paustian-Underdahl, Shanock, Rogelberg, Scott, Justice and Altman (2013) highlight that there is good

theoretical reason to believe that the benefits of leadership training may extend to the leader. They argued that through developing supportive behaviours, this can enhance the leader's followership and reputation, thereby meaning that they have more resources available to them to help them perform optimally. High levels of resources have been shown to help foster engagement, motivation and performance (Bakker & Demerouti, 2007; Demerouti et al., 2001). In addition, leadership interventions can have a positive impact on leaders' personal components, and the beliefs they hold about themselves and the world around them.

As outlined within the previous chapter, there are four personal (psychological) components associated with authentic leadership; self-efficacy, optimism, hope and resilience (Luthans & Avolio, 2003). Self-efficacy has been identified within the wider research literature as being one of the most important personal components; it is fundamental to human functioning and agency and plays a crucial role in determining and understanding actions (Bandura, 1977a, 1997, 1986). Similarly, self-efficacy can be considered a key personal component of an authentic leader, as it is through greater levels of self-efficacy that the leader is better able to regulate their behaviour. Therefore, it plays a key role in determining whether awareness of the supportiveness of leadership behaviours is translated into behavioural and performance outcomes. Self-efficacy refers to whether the individual believes that they are successfully able to perform a task. Unsurprisingly, the relationship between training, self-efficacy and performance has been well established (Stajkovic, Lee, & Nyberg, 2009), and there is good reason to believe that self-efficacy is a useful criterion to assess training against. Where training intervention studies have measured self-efficacy (e.g. Christoph, Schoenfeld, & Tansky, 1998; Martocchio & Judge, 1997) there is clear potential for it to have real explanatory power as an evaluation criterion. A review carried out by Aguinis and Kraiger (2009) found evidence to support the idea that training can improve the consistency of performance through increasing levels of perceived self-efficacy in delegates, as well as through increasing

outcome expectancy. Perceived self-efficacy is an important criterion in a training context as it can determine the amount of effort that an individual spends, how persistent they are and ultimately their behaviour and performance (Bandura, 1997). Therefore, a successful training programme should arguably increase perceptions of self-efficacy in delegates so that they have the belief in their ability to successfully carry out or apply new skills, behaviours and knowledge. This is particularly true for interventions which aim to promote authentic leadership, as self-efficacy is recognised as being a key personal component. Subsequently, within this thesis, self-efficacy forms a key evaluation criterion and is explored as part of the second research question of study II:

Research question 2: Does leaders' self-efficacy to deal with common leadership scenarios change following attendance at a scenario-based leadership training intervention?

In summary, this brief review of the training literature has highlighted that the content of leadership interventions should be driven by theory. However, the specific training needs and context of the organisation should not be overlooked. Researchers warn that failure to consider the organisation's training needs may limit the effectiveness of the training programme (Ford & Wroten, 1984; Goldstein & Ford, 2002). Similarly, the method of training may be an important consideration when evaluating its impact. There is a growing interest in training methods that draw on the principles of adult learning to increase the likelihood of any learning being transferred back to the workplace.

The sections that follow will discuss this further, and make the case for scenario-based leadership training interventions.

2.1.5 Adult learning and development

There are many different approaches to leadership development and the effect an intervention has can vary depending on the delivery method and what is being trained (Arthur, Bennett, Edens, & Bell, 2003). Researchers have raised

concerns that traditional lecture approaches utilised in many training interventions are largely ineffective and do not engage learners (Thiagarajan, 2005). There is arguably a need for further research exploring more innovative approaches to training. However, research by Arthur et al. (2003) disputes this view by showing that lecture and discussion methods of training have been found to have medium to large effect sizes (Cohen, 1992) across a range of evaluation criteria (i.e. reactions, learning, behaviour and results). It has long been established that integrating discussion into traditional lecture methods can help to gain trainee participation and engagement, as well as offering the opportunity for delegates to ask questions and develop their understanding (Burke & Day, 1986). Essentially, training programmes that encourage active participation are generally considered to be superior to traditional passive approaches.

The changing approaches to training delivery methods represent a more general shift in the way that we understand adult learning and development. Traditionally, learners or trainees played the role of listeners; however, over the years, their role shifted and there is now greater engagement and involvement of the trainee in the learning process (Thiagarajan, 2005). Learning necessarily involves changing an individual's cognitions and their frames of reference. Frames of reference are the "structures of assumptions through which we understand our experiences" (Mezirow, 1997, p.5). They involve cognitive, conative and emotional components which broadly form two dimensions; habits of mind and points of view. An individual can change their frames of reference through reflecting critically on the assumptions they have made and the interpretations, beliefs and habits of mind that their viewpoints are based on. Through becoming critically reflective of the assumptions of others and engaging in self-reflection, the ideas and beliefs of an individual can be transformed. However, this transformation will only occur if the new learning sits outside of the individual's existing frame of reference. To achieve this, Mezirow (1997) argues that educators should seek to encourage autonomous and reflective thinking; they should adopt a participatory and

interactive approach involving group discussion. This has been echoed by other researchers, who state that learning needs to be active, experiential and social (Webster-Wright, 2009). Repertory grid has been identified as one method to help encourage critical reflection as it enables individuals to put their thoughts and beliefs into context, and draw on their experiences (Mezirow, 1990).

The value of learning through reflecting on experiences (i.e. experiential learning) largely dominates the training literature today. Unlike traditional passive methods of training, this experiential approach encourages delegates to take an active role in their own learning (Kolb, 1984). Even though Kolb's (1984) experiential learning model was proposed more than 30 years ago, it arguably remains highly relevant to training within modern organisations. There are four stages of experiential learning, starting with a 'concrete experience' of an event or situation that has occurred. Whilst it is not always possible or ethical to expose individuals to the various experiences they may encounter within the workplace, the use of video scenarios and simulation enables delegates to essentially experience situations, but in a safe environment. The second stage is called 'reflective observation' which is where individuals reflect on the situation from different perspectives. By reflecting on the experience or situation, individuals can visualise new realities and adapt their current ways of thinking. This can subsequently influence the transfer of learning; the degree to which skills and knowledge gained and lessons identified can be applied to future situations. Following this, the next stage of Kolb's (1984) learning cycle involves 'abstract conceptualisation'; where individuals turn their observations into theories, which are then used as guides for future action, or 'active experimentation'.

Kolb (1984) argued that all four stages are necessary for a deeper level of learning. Although a learner can enter the cycle at any stage, effective learning only takes place when the individual encounters and executes all four stages of the learning cycle in the logical sequence which is outlined in Figure 2.1. Furthermore, Kolb argues that simply relying on one of the four stages as a way of learning will not be effective. Arguably, this is one of the shortfalls of some

of the existing approaches to leadership development and training; there is a tendency to focus on one stage, rather than integrating all four into a training programme.

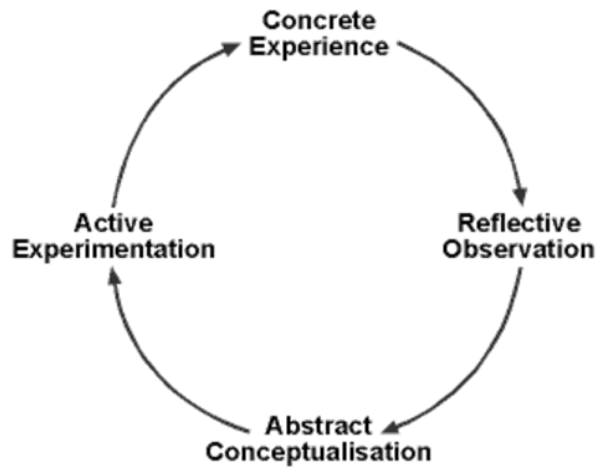


Figure 2.1: Kolb's (1984) experiential learning cycle

Kolb's (1984) experiential learning theory has been studied across cultures and across many fields and disciplines of research (Kolb & Kolb, 2007), which demonstrates its broad application and utility as a framework for learning. In addition, recent empirical studies have supported the use of experiential learning to enhance learning outcomes (e.g. Konak, Clark, & Nasereddin, 2014). It follows that training programmes that are designed to incorporate the full cycle of learning outlined by Kolb (1984) may foster greater learning than training programmes that fail to support all four stages.

In addition to Kolb's (1984) learning cycle, other researchers have also attempted to explain ways in which adult learning can be promoted. Mezirow (1981) drew on the ideas of Habermas (1971) and the three domains of learning they had identified; technical (tasks), practical (social norms) and emancipatory (understanding yourself). These domains have also been referred to as instrumental, dialogic and self-reflective. Each domain has different learning goals and represents differences in how people learn based on what it is they are learning; subsequently it follows that the design of training should consider this. The 'technical' (instrumental) domain refers to learning for task-related

competence. This type of learning occurs because of empirical knowledge gained through testing hypotheses and experimentation. Action is based on the prediction of events. Marsick (1988) argues that education and learning has been too heavily influenced by this type of technical, behaviourist paradigm, which utilises objective problem solving and formal group activities which are suited to tasks that have a clear solution and a set approach. However, as previously highlighted, experiential learning theory moves beyond this by incorporating experience and reflection into the learning process.

This contrasts to the 'practical' (dialogic) domain, which relates to learning for interpersonal understanding. Here, action is based on norms that are learnt through communication of sanctions. Lastly, the 'emancipatory' (self-reflective) learning domain refers to learning for perspective transformation. This is focused on self-knowledge and self-reflection and the insights that are gained through this. Mezirow (1981) argues that this is the domain of learning that tends to be used the least by educators; however, this domain is crucial for the learner to explore new ways of doing things and behaving. Through critical reflection, the learner goes beyond awareness (e.g. awareness of their behaviour) to recognising how they feel about it, why they behave in that way and passing judgement on whether this is positive or negative.

Mezirow (1981) argues that each learning domain may need a slightly different educational or training strategy, yet this is often ignored and too much emphasis is given to the technical domain. In addition, more focus should be given to how individuals assign meaning to things and how their thoughts, feelings and perceptions influence this. This may be achieved by using group discussions which help to facilitate learning through understanding others' perspectives and moving beyond our own internalised beliefs and habits. The learner should also be encouraged to challenge assumptions and share experiences. Arguably, incorporating these practical and emancipatory domains of learning is necessary for most learning situations. This approach to learning goes beyond the educator dictating how things should be done, but

instead it encourages the learner to take on new perspectives themselves and become more self-directed in their learning. It also acknowledges that learning of job-related knowledge and skills will be influenced by other historical, social and cultural factors.

The models and theories of adult learning share a consistent theme; they all suggest that reflecting on experience is important for promoting learning. Although these approaches to adult learning are not new, they can play a vital role in informing the design of current interventions within organisations. Arguably, training which incorporates or simulates challenging job experiences is likely to be an effective learning tool. Therefore, the use of scenarios is increasingly being recognised as a valuable training method which draws upon the principles of adult learning (Salas, Priest, Wilson, & Burke, 2006b).

2.1.6 Scenario-based training

Scenarios are a useful tool to aid learning; when scenarios are appropriately tailored to the organisation and the behaviours or skills to be developed, the learner can easily relate their content to their job. Using a scenario-based approach, the learner may be more readily able to apply the skills and behaviours from the training. The use of scenarios also enables the learner to consider future outcomes whilst in a safe environment, which subsequently affects their future behaviour on the job. This draws on a key principle of social learning theory; that humans are not limited to learning through direct experiences, but can also learn through observing others (Bandura, 1977b; Wood & Bandura, 1989).

Whilst scenario and simulation-based training is common in the aviation industry, relatively little research explores this in a leadership context. Moats, Chermack and Dooley (2008) highlight that many leaders work in complex environments and propose that scenario-based training may be an effective method of developing supportive leadership behaviour within these environments. Their own research focused specifically on leadership in crisis situations, but scenario-based training is arguably applicable to everyday

leadership situations and decision making. Scenarios help to increase the ecological validity of the training content as the behaviours observed within the scenarios can be more easily applied to real situations. This helps to contextualise the training by making it applicable to future situations that the delegates may encounter (Kirkley & Kirkley, 2005; Moats et al., 2008). Furthermore, the use of video-based scenarios has been shown to be more effective than traditional learning approaches (Knowles, Kinchington, Erwin, & Peters, 2001). In the context of leadership training, the use of scenarios helps to ensure that when behaviours are discussed, leaders understand and interpret the behaviour in the same way, rather than having their own view on what that behaviour entails. Scenario-based training methods can draw upon research into situational judgement tests that are commonly used within organisations as part of their recruitment process. This type of test involves asking potential candidates to select what they think is the most appropriate response to a situation based on their work setting and role. Commonly, candidates will be provided with multiple choice options to select from. Research has shown that responses provided to situational judgment tests can be a good predictor of subsequent job performance and behaviour (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001). In the same way, scenario-based training can encourage delegates to consider and discuss a range of different response options and may help to inform their future responses.

The use of scenarios within a training context can help to change delegates' mental models; the simplified way that we think about things and the assumptions that we make to allow us to process information in a more efficient way. The mental models we hold help us to make sense of our environment so that it is more predictable and act as a guide for our actions. This can result in the tendency to adopt similar behaviour patterns time and time again. However, scenarios can help to make our mental models explicit and allow us to challenge them, so that we can see new ways of doing things (Korte & Chermack, 2007). This can help to facilitate behaviour change.

In summary, the existing intervention research provides some promising evidence of the impact that leadership training can have on a range of outcomes. It also highlights new directions for training; including the use of scenarios and other training methods that support experiential learning. However, it is evident that there is still much to be learnt about the effectiveness of leadership training. There is a need for more theory-led interventions, and evaluation studies across different types of organisational settings, including healthcare organisations. This research will attempt to address this gap through evaluating a theory-based leadership intervention which draws on the principles of adult learning. The training utilises video scenarios, as well as repertory grid technique, reflection and group discussion.

However, it is also important to recognise that the level of confidence in drawing conclusions about the effectiveness of any leadership intervention will be dependent on the quality of the evaluation process and methods used. Hence, the important topic of evaluation will be discussed next.

2.2 Evaluation: the missing link

Organisations invest a huge amount of money and human resource effort into training every year. However, evidence from the evaluation of leadership interventions is lacking (Avolio et al., 2003), resulting in uncertainty surrounding the return on development investment (Avolio, 2005). The reduction in the number of resources available to organisations makes it arguably more important than ever to justify the training that is put in place (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). The process of evaluation can help organisations to see whether a training programme is having the desired impact and whether any change has occurred. Through evaluation, organisations can demonstrate the costs and benefits of a training programme and identify ways in which the programme can be improved to maximise its effectiveness (Grove & Ostroff, 1991; Phillips & Phillips, 2016). Although many researchers use the terms 'training evaluation' and 'training effectiveness' interchangeably, Alvarez, Salas and Garofano (2004) argue that there is a

distinction between them. Evaluation is primarily concerned with establishing whether the training has achieved its purpose in terms of its goals and objectives. On the other hand, training effectiveness is concerned with understanding the factors (individual and organisational) that may influence the training outcomes. However, training evaluation and effectiveness are closely related and most researchers and practitioners agree that to have a comprehensive understanding of how successful a training programme is, both evaluation and exploration of its effectiveness are important.

Many organisations do not understand the importance of evaluation or know how to conduct a thorough evaluation of training within an organisational setting (Kirkpatrick & Kirkpatrick, 2006). Early research has shown that where training interventions have been evaluated, there is often insufficient information about the specific content of the training and how this promotes effective leadership and management (Campbell, Dunnette, Lawler, & Weick, 1970). The content of leadership interventions is so varied and utilises a range of delivery methods and evaluation criteria; meaning it is difficult to draw conclusions about the nature of effective leadership training. Arguably, this remains the situation for current evaluation research. A more recent systematic review carried out by Straus, Soobiah and Levinson (2013) found that the impact of leadership training in academic medical centres was difficult to determine due to the lack of usable studies and the deficiencies of the study designs. They reported that only two of the ten usable studies they found had validated their questionnaires, and most studies failed to assess the impact of the training once delegates were back in their job role.

In addition to these shortfalls in the design of evaluation studies, Cooper et al. (2005) highlight that within the leadership literature, there are numerous measures of the same construct, and this can inevitably limit the extent to which studies can be compared and may hinder the overall development of leadership theory. Similarly, a meta-analysis conducted by Avolio et al. (2009b) found that many studies of leadership interventions fail to use appropriate measures to test cause and effect and they make an arbitrary choice of the

dependent variable measures. This makes it difficult to assess the true impact of the training. Arguably, there is a need for further research on interventions which evaluate against theoretically driven outcomes.

Evaluation presents many challenges to organisations, but is an essential step for ensuring that resources are invested appropriately. Best practice dictates that training evaluation should be considered at the time of planning the training intervention (Pineda, 2010), and should be a key part of the overall training process. Many models of evaluation have been proposed which help to provide a framework for assessing the impact or effectiveness of a training intervention. Some of the most commonly used models and approaches to evaluation are briefly discussed next.

2.2.1 Kirkpatrick's training evaluation model

The most well-known and widely used approach is Kirkpatrick's (1959) training evaluation model. There are four levels of evaluation within this model; reactions, learning, behaviour and results. The reactions component refers to the trainees' thoughts about the programme, and although they do not guarantee learning, positive reactions to training may be more conducive to learning. Over recent years, the reaction component has been developed further to include both the enjoyment and utility of the training programme, as well as the difficulty level. The learning component of Kirkpatrick's model is concerned with the learning of quantifiable training objectives during the training programme. More recent approaches distinguish between different types of learning, including; immediate knowledge, knowledge retention and skill retention. The third level in Kirkpatrick's model; behaviour, seeks to understand the impacts on job performance whilst the fourth level; results, evaluates how the training has met the organisational goals (e.g. reducing absence).

Although Kirkpatrick's model remains one of the most commonly used evaluation models (Salas & Canon-Bowers, 2001), concerns have been raised over how simplistic the model is. Researchers argue that there is little

conclusive evidence to support the view that reactions to training predict subsequent learning and application to the job role (Alliger, Tannenbaum, Bennett, Traver, & Shotland, 1997; Colquitt, LePine, & Noe, 2000; Holton, 1996; Patterson & Hobbey, 2003). Holton (1996) presented evidence that reactions may act as a moderator between training motivation and learning, and therefore should not be considered as one of the main outcomes of a training programme. Despite this uncertainty, most intervention studies tend to focus heavily on reactions and learning as the outcome criteria, which therefore provides only a limited picture of the overall effectiveness of the training (Cheng & Hampson, 2008).

Furthermore, the model fails to take into consideration the mechanisms behind the learning that has occurred. This is a vital component when trying to assess the impact of different training methods and becomes necessary for informing the design of future training programmes. Researchers also argue that the model ignores a vast range of other factors that can influence learning and the transfer of training, and therefore it only provides part of the picture (Holton, 1996). Essentially, the major shortfall of Kirkpatrick's model is that when expected performance outcomes of a training programme are not met, the model lends itself to the conclusion that this was a result of problems with the training programme itself, rather than considering other potential barriers that may influence the training effectiveness. However, it has long been established that there are a range of factors before and during the training that can influence its effectiveness (Noe, 1986). A further criticism of Kirkpatrick's model is that it implies that there is a causal relationship between the different levels, when this is not substantiated with evidence (Holton, 1996). Researchers have attempted to develop alternative models of evaluation to overcome some of these criticisms; a brief overview of some of these approaches is outlined next.

2.2.2 Beyond Kirkpatrick's model: alternative approaches to evaluation

It is evident that the shortfalls of Kirkpatrick's model have resulted in the need to develop a new approach and framework for training evaluation, with the aim of ultimately helping to guide researchers and practitioners through the evaluation process. Through this broader evaluation, it may be possible to increase the likelihood that training will be effective.

To achieve this, Tannenbaum, Methieu, Cannon-Bowers, and Salas (1993) proposed a model of training effectiveness which considered several 'non-technical' factors, including; attitudes, expectations and motivation. They argue that the individual's level of self-efficacy prior to attending a training programme needs to be considered, and that programmes should aim to enhance self-efficacy to increase the likelihood of other positive outcomes. A further evaluation model was put forward by Holton (1996) and identified motivation as being a crucial factor for learning. The model states that motivation is influenced by the trainee's readiness for the intervention, which may in turn be influenced by factors such as their degree of involvement in the planning stage and their choice over the training programme. Furthermore, positive job attitudes may also increase an individual's motivation to learn along with some personality characteristics (e.g. openness to experience) and general cognitive ability (Holton, 1996). Although these factors are important for learning outcomes, it is also necessary to explore the factors that can determine whether this learning will result in a change in actual performance outcomes. For example; supervisor support, peer support and perceived organisational support have also been shown to positively impact on the transfer of learning to performance on the job (Enos, Kehrhahn, & Bell, 2003). In summary, Holton's (1996) evaluation research and measurement model provides a more comprehensive and holistic view of training evaluation than Kirkpatrick's (1959) four level model. However, its relative complexity makes it a challenge to apply and validate within organisational settings, and this is likely to reduce its appeal to practitioners.

A more recent attempt at developing a model for evaluation was made by Kraiger (2002), which highlights the importance of considering the purpose of the evaluation; for example, whether the evaluation will be used to help inform decisions that are made, or whether it is being used to provide general feedback about the programme. This will ultimately determine the type of evaluation that is appropriate. In addition to identifying the purpose of the evaluation, this model also highlights that the measures used within the evaluation should be suited to the needs of those who it is aimed at (the evaluation audience). As part of a training evaluation process, Kraiger (2002) argues that it is important to consider the training programme itself and the content, but also changes over time in the learner's cognitive, behavioural and affective outcomes. Evaluation should not just focus on the individual (delegate) but it should also assess the wider impact of the training by taking into consideration the organisational changes and payoffs (e.g. performance and the transfer of training). The strength of this evaluation model is the fact that it promotes evidence or decision-based evaluation and challenges the view that there is one evaluation framework to suit all situations.

In an attempt to combine research findings on training evaluation and effectiveness from 1993-2002, Alvarez et al. (2004) proposed an Integrated Model of Training Evaluation and Effectiveness (IMTEE). As part of their research, they reviewed a range of factors that have been identified within the literature as playing an important role in determining training outcomes. Specifically, they combined the research from the four most widely used evaluation models that have previously been outlined (Holton, 1996; Kirkpatrick, 1959; Kraiger, 2002; Tannenbaum et al., 1993). They identified six key evaluation measures; reactions to the training, post-training self-efficacy, cognitive learning, training performance, transfer performance and results. However, these measures are by no means exhaustive and Alvarez et al. (2004) argue that there may be additional factors and further relationships that exist which explain the full complexity of training effectiveness. In summary, the model outlines that reactions to the training may be used to evaluate the

design and content of the training whereas self-efficacy, cognitive learning and training performance may be a good measure of changes in the trainee. Furthermore, the impact of the training on the organisation can be measured by transfer performance and results (quantifiable changes in outcomes). In summary, the IMTEE model provides a useful framework for both researchers and practitioners and helps to advance training evaluation theory and models by combining research on both training evaluation and effectiveness. Essentially, the IMTEE looks to explore whether a training programme has met its intended goals (i.e. training evaluation), but it also considers the factors before, during and after the training programme that might influence the outcomes of the training (i.e. training effectiveness). Evidently, this model provides a strong rationale for conducting training evaluation at different time points, and for measuring a wide range of factors that might affect the training outcomes.

Despite the development of theories and models of evaluation, Nielsen and Randall (2013) argued that many evaluation studies are limited in their ability to explain the reasons why or how they have reached a certain outcome. This information is vital for determining whether the success or failure of an intervention is due to the content and theory that it is based upon or the way in which it was implemented. This information can be used to help inform future interventions and forms a central part of Nielsen and Randall's (2013) evaluation framework. The framework goes beyond establishing the impact of an intervention to exploring the reasons behind its impact (i.e. the 'process' factors). The framework outlined three key process factors that may impact the effectiveness of a training intervention; the way in which the intervention is designed and implemented, the context and environment in which the intervention takes place, and the mental models held by individuals going through the training. Within each of these factors, there are several points for consideration. For example, the mental models held by an individual incorporates the readiness and motivation of the individual in relation to change, whereas the design and implementation factor considers how the

training was initiated, its purpose, the activities within the intervention and the participant's level of involvement. This framework also highlights the need to evaluate the influence of the organisational context and culture, including the support and demands placed on individuals, as this can enable or limit the effectiveness of an intervention.

This approach to evaluation can help to address many unanswered questions in relation to the success or failure of an intervention. However, Nielsen and Randall's (2013) framework was based upon organisational level interventions. Therefore, it may not be as applicable to leadership interventions which are targeted at the individual level and focus on changing behaviours. In addition, the main challenge associated with this approach is the feasibility of capturing the breadth of process information that the framework outlines. Nielsen and Randall (2013) propose using organisational data, questionnaires, interviews and observational data to help capture the broad range of process factors. In practice, the use of different methods may not always be possible within organisational settings and is inevitably time consuming and difficult to implement.

2.2.3 The challenge of evaluation in applied settings

One of the biggest barriers within organisations is the lack of time and resources for investing in and evaluating leadership training programmes (Paustian-Underdahl et al., 2013). Evaluation evidence can be crucial in helping to build a strong business case and secure the funds and time needed for training. However, evaluation within organisational settings is challenging and subsequently much of the existing research has methodological limitations and fails to demonstrate any long-term effects (Burke & Day, 1986; Collins & Holton, 2004; Cox, 1993; Van Wyk & Van Wyk, 2010). The use of small samples can result in low power and greater likelihood of a type II error during analysis; implying there is no relationship between two measured variables when in fact there is. Many studies also fail to compare post-training measures with any baseline measure. Subsequently, this type of research has limited utility and

may explain why much of the leadership research is inconclusive (Avolio, 2007; Day, Harrison, & Haplin, 2008). Furthermore, the complexity of more recent evaluation models has meant that they are often rejected in favour of Kirkpatrick's simplistic evaluation model. In many cases, a simple evaluation of training reactions is used, even though research studies have found no relationship between reactions, learning and other training outcomes (Alliger et al., 1997; Van Buren & Erskine, 2002).

However, conducting research within organisational settings is undoubtedly more challenging than research in controlled settings. There is huge variation between studies which makes it difficult to make any comparisons or draw any conclusions (Kelloway & Barling, 2010). Real world research within organisations comes at the sacrifice of using a true experimental design, and there are several logistical issues to overcome (Mullen & Kelloway, 2009). The challenge of getting an adequate sample of matched data (before and after an intervention) means that many studies are unable to assess changes over time. Similarly, there are ethical and moral dilemmas associated with the use of a control group in an organisation, and therefore relatively few randomised controlled studies exist. This can make it difficult to rule out the possibility that changes in the experimental group are due to other factors besides the training itself (Goldstein & Ford, 2002).

Arguably, there needs to be a balance between developing an evaluation model or framework that enables researchers and practitioners to conduct a rigorous evaluation of any training programme, and the need for realistic evaluation models which consider the complex organisational environment and nature of interventions. Whilst formal experimental designs are still preferential, there is growing support for the view that some form of evaluation is better than none, and that meaningful evaluation can be conducted without necessarily having a baseline measure or control group (Sackett & Mullen, 1993). Kraiger (2003) recognises; "less rigorous research designs may still be useful for decision making purposes" (p.186). Similarly, Sackett and Mullen (1993) acknowledged the "very real constraints on

organisations in terms of the feasibility of formal experimental design” (p.614), and subsequently called for alternative methods. They criticised the existing training literature for implying that evaluation is inadequate unless it involves a pre-test, control group and random assignment and stated that “some compromise may be necessary” (p.619). They argued that training evaluation can seek to establish whether a certain level of knowledge, skill or performance has been achieved without necessarily requiring a control group, randomisation or a pre-training (baseline) measure. In some cases, the use of a control group may reduce the power, even though it has better internal validity. This demonstrates the trade-off between the various approaches to evaluation, and highlights that there is not necessarily one correct approach to evaluation. Sackett and Mullen (1993) also argued that evaluation should involve an element of rational judgement and draw on existing information to help make sense of the findings where control groups and pre-training assessments are not possible.

Essentially, consideration needs to be given to the question that the organisation seeks to answer as part of their evaluation and the constraints that the organisation faces. Sackett and Mullen (1993) argued that in many cases, the organisation’s evaluation questions will not necessarily require a formal experimental design. According to Pineda (2010), there are five key questions that should be considered as part of any evaluation; what is being evaluated? (i.e. satisfaction, learning, transfer of training and/or impact on organisational goals), how is it being evaluated? (i.e. the measures used), when is the evaluation taking place? (i.e. before, during and/or after training), who will make the judgements about the training? (i.e. participants, managers, trainers and others affected by it) and who is the evaluation addressed at? (i.e. the purpose and focus of the evaluation). By considering each of these questions as a minimum, this can help to successfully guide the researcher through the evaluation process.

In summary, although formal experimental designs are generally preferred within the academic literature, there also needs to be

acknowledgement of the balance between scientific rigour and the practical application of evaluation within organisational settings. Arguably, there is a need for more realistic approaches to evaluation within organisational settings. Therefore, a realistic and pragmatic evaluation process is adopted within the second study of this thesis, which adds value to existing leadership intervention studies by considering the longer-term outcomes and transfer of the learning. These areas will be discussed in more detail in the section that follows.

2.2.4 Transfer of training

Training quality alone does not predict training effectiveness and there are broader influential factors which can explain why differences exist in terms of the gains from training and the transfer of learning back to the job role. Tannenbaum et al. (1993) recognised the need to distinguish between training performance and transfer performance; the latter being performance on the job as opposed to performance in the training environment. Essentially, they argue that training evaluation should not only explore whether the person 'can' perform a task differently, but whether they 'do' when they are given the opportunity back in their job role. Saks (2002) estimates that 40% of delegates will fail to immediately transfer their learning, and that this figure increases when looking at the transfer of learning a year after training.

It is widely acknowledged that for training to be beneficial in the long-term, the delegates need to be able to relate their learning back to their job role. Holton and Baldwin (2000) state that for training to have any real impact on job performance, the learned behaviours and skills need to also be transferrable across contexts and over time. Arguably, many training programmes fail because the content is not relatable to everyday working life in the organisation that they are aimed at (Bates, 2003; Lim & Morris, 2006). Furthermore, Thayer and Teachout (1995) argue that positive transfer is predicted by the transfer climate and the situational cues and consequences, as well as transfer enhancing activities that take place during the training itself. As previously outlined, the use of scenarios as a training method is rooted in

theories of learning (Salas et al., 2006b). This method allows demonstration and observation of performance and increases the likelihood of transferability of the learned skills and behaviours back to the workplace. Furthermore, Burke and Hutchins (2007) outline that active learning can play an important role in the transfer of training. This can involve getting delegates to complete activities to engage them more in the learning process, rather than passively taking part. In addition, self-management strategies become important; equipping learners with the skills they need to transfer learning back to their job role. This can be promoted through using goal setting and action planning which encourage the individual to engage in self-regulatory behaviours. Taylor, Russ-Eft and Chan (2005) also outline that a mixed-model approach to behavioural modelling can be used to try to increase the transfer of learning. This means that individuals are shown effective and ineffective behaviours to develop their understanding of the most appropriate behaviours to model. The techniques described here were employed within the Scenario-Based Training (SBT) intervention which is evaluated as part of the second study within this thesis.

However, as Thayer and Teachout (1995) highlight, the design of the training alone will not guarantee positive transfer as there are other factors within the individual's climate and environment that help or hinder an individual's ability to apply their learning from the training. In their development of a measure of transfer, Holton, Bates and Ruona (2000) refer to a broader construct of a 'transfer system' which incorporates aspects of the work climate as well as factors such as the training content which affect transfer. Their 'Learning Transfer System Inventory' (LTSI) is arguably one of the most widely used measures of transfer and has been rigorously developed, tested and validated across cultures (e.g. Bates, Kauffeld, & Holton, 2007; Devos, Dumay, Bonami, Bates, & Holton, 2007). For example, researchers have identified that the opportunity to apply the training (Burke & Hutchins, 2007; Ford, Quiñones, Sego, & Sorra, 1992) and the support received once back in the job role (Goldstein & Ford, 2002; Holton, Bates, & Kauffeld, 2007; Kirwan & Birchall, 2006) are likely to influence the successful transfer of training. This is

in line with early research that suggested that management support is particularly important for enhancing the transfer of learning back to the job (Leifer & Newstrom, 1980).

Essentially, the climate, culture and work environment are important sources of information to trainees about how valued the training is and whether there is belief in the individual's ability to personally develop (Tannenbaum et al., 1993). A study carried out by Clarke (2002) within a social services department in the UK identified several constraints within the work environment which inhibit the transfer of learning. High workload and lack of time were shown to be common constraints placed upon delegates which prevented them from applying their new skills and learning. In addition, the level of support and reinforcement received once back in the job role were also identified as important factors in the transfer of learning.

Despite these findings, the influence of the work environment on the transfer of training has arguably been under-researched over recent years (Alvarez et al., 2004), and there is a noticeable lack of research within healthcare settings. However, it is evident that organisations need to consider the wider work environment as part of their planning for any leadership training interventions. As Janjua (2014) states; "it is important that a culture of development and support should pervade – one that allows senior leaders the time and space to try new things...one where they are free from the weight of scrutiny and blame that dominates today" (p.3). For leadership training to result in positive changes to the leader's behaviour, leaders need to feel that they are operating in a supportive and psychologically safe environment which allows them to test and apply new leadership approaches and behaviours without fear.

In summary, there are strong grounds to believe that perceptions of the organisation will play an important role in predicting the impact of a leadership training intervention. This includes aspects of the perceived work environment such as the support delegates receive, as well as the individual's ability and opportunity to apply the learning. However, the lack of longitudinal training

evaluation studies, particularly within healthcare settings, has limited our understanding of training transfer processes.

To understand this further, the following research question will be explored within study II:

Research question 3: What are the predictors of the transfer of training?

2.3 Summary

In summary, the existing training evaluation literature has highlighted the need for more innovative approaches to developing effective leaders, which apply the principles of adult learning and are informed by theory. In addition, there is a need for more rigorous evaluation of interventions which considers the most appropriate criteria to assess the training against and explores the factors influencing the long-term impacts. This research will aim to address some of these shortfalls.

Specifically, the second study within this thesis looks to assess whether leadership can be developed through a training intervention by evaluating the impact of a scenario-based training intervention which promotes a social cognitive perspective of leadership and authentic leadership behaviour. It should be noted that evaluation forms only one part of the overall training process or cycle, and the design and delivery of the training are also important research areas. However, for the purposes of this thesis, the focus is solely on the evaluation of the training intervention. The training intervention itself is discussed in more detail in chapter five; however, it utilises short video scenarios of common 'problems' that leaders within healthcare settings are likely to face. The scenarios are used to promote discussion and reflection around supportive and unsupportive leadership behaviours, and to encourage participants to reflect upon their own experience of supportive and unsupportive leaders. This approach is in line with experiential learning theory and can help the learner to generate their own theories and apply this to future action (Kolb, 1984). In addition, the training utilises other techniques (e.g. goal

setting, action planning and repertory grid techniques) to increase the likelihood of the successful transfer of learning.

2.4 Research questions

The review of the literature has highlighted that it is now a critical time for leadership within the NHS; there is growing recognition of the important role that leaders play in promoting positive outcomes for both staff and patients. However, further research is needed to enhance our understanding of the process of leadership within this sector, as well as a need for more empirical evidence to assess the impact of innovative and theoretically driven approaches to leadership training. Leadership theory has evolved, but relatively little research has attempted to integrate the theoretical perspectives of leadership into a framework that can easily be translated and applied within organisations. This thesis aims to contribute to existing knowledge and theory on leadership by testing a more holistic social cognitive perspective of the leadership process, which explores the interaction between personal, environmental and behavioural components in leaders and in the leader-follower relationship. In addition, this research provides a unique opportunity to assess both the short and long-term impacts of a training intervention which promotes this social cognitive understanding of leadership.

The research questions that this thesis will seek to address have been outlined within the relevant areas of the literature review, and are summarised below along with the specific hypotheses that will be tested:

Study I:

- Research question 1: Does leader behaviour help to explain the relationship between leaders' personal components and their perceptions of the work environment?
 - The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of (H1) control/autonomy, (H2) social resources, and (H3) reward

and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.

- The relationship between leaders' beliefs in their ability to positively contribute to the workplace and leaders' perceptions of (H4) control/autonomy, (H5) social resources, and (H6) reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.
- Research question 2: Do perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes?
 - The relationship between leader behaviour (inclusive behaviour) and follower (H1) job satisfaction, (H2) organisational commitment, (H3) optimism, and (H4) personal adaptability, is mediated by followers' perceptions of the social resources in their work environment.
 - The relationship between leader behaviour (inclusive behaviour) and follower (H5) job satisfaction, (H6) organisational commitment, (H7) optimism, and (H8) personal adaptability, is mediated by followers' perceptions of control/autonomy in their work environment.

Study II:

- Research question 1: Can leaders be trained to have greater awareness of the supportiveness of different behaviours?
 - Leaders will have greater awareness of the supportiveness of (H1) democratic leadership behaviours, (H2) performance/target-driven behaviours and (H3) behaviours associated with good self/other awareness following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.

- Research question 2: Does leaders' self-efficacy to deal with common leadership scenarios change following attendance at a scenario-based leadership training intervention?
 - Leaders will have higher levels of self-efficacy to manage (H1) repeated short-term sickness absence, (H2) organisational change, (H3) aggressive behaviour towards their staff and (H4) poor communications, following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.
- Research question 3: What are the predictors of the transfer of training?
 - (H1) Leaders' post-course self-efficacy, (H2) their application of the learning, (H3) the support they receive post-training and (H4) the interaction between post-training support and application of the learning will predict leaders' self-efficacy levels 6 months post-training, above and beyond individual characteristics (age, sex) and pre-course self-efficacy levels.

The chapter that follows explains the overall design and methodology for each study presented within this thesis (study I and study II). The specific hypotheses that form study I will be tested within chapter four and chapter five outlines and tests the specific hypotheses for study II.

CHAPTER THREE: METHODOLOGY

3 Overview of research

Two studies are explored within this thesis; the first study tests a social cognitive perspective of leadership, which considers the personal, environmental and behavioural components of leaders and the interaction between leaders and their followers. The study uses a quantitative research approach which involves the collection of data through an online assessment (questionnaire) which is referred to as the 'Supportive Manager Behaviour Index' (SMBI). This assessment was developed prior to conducting this research with involvement from the author and is owned by an applied psychology consultancy (Zeal Solutions Ltd.). The study uses a cross-sectional study design; data is collected at a single time point from leaders and their followers.

The second study aims to establish whether leadership can be developed by exploring the impact of a scenario-based leadership training intervention that adopts a social cognitive perspective to understanding leadership. This study uses a prospective longitudinal study design to explore the impacts of training, as well as exploring factors predicting the transfer of leader self-efficacy. Once again, a quantitative research approach was adopted, which comprised the development of three evaluation questionnaires and the collection of data at three time points; immediately before participating in the training intervention, immediately after training and again 6 months later. An overview of the research design is presented in Figure 3.1.

Healthcare organisations from across the UK were invited to take part in both studies; however, the second study had a larger uptake than the first study. Where organisations and participants (leaders) agreed to take part in both studies, the data collection was staggered so that completion of the SMBI assessment took place approximately 6 weeks prior to attending the training intervention.

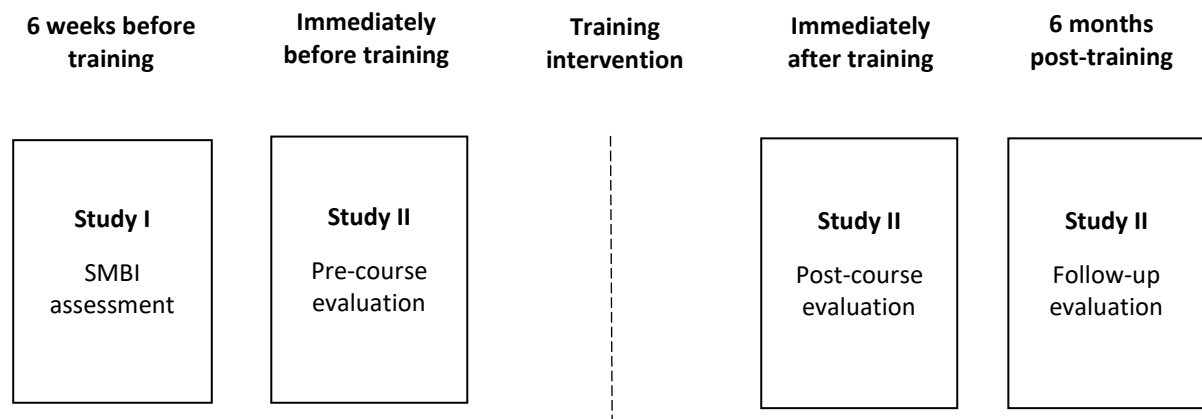


Figure 3.1: Research design

3.1 Overview of organisations and samples

Following an initial discussion with one of the organisations who act on behalf of the NHS, permission was received to conduct this research and a list of 50 healthcare organisations was provided. The organisations were selected based on their representation of the service and comprised organisations of varying sizes and performance levels from across foundation trusts, acute trusts, ambulance trusts and mental health trusts. All 50 organisations were contacted initially via email and invited to participate in both research studies. The communication was sent to human resource, training or staff well-being departments and outlined that as part of the research, the organisation would be able to send two nominated trainers to attend a 'train the trainer' session for a scenario-based 'Supportive Leadership and Management Behaviour' training intervention. In addition, the communication outlined that the nominated trainers who attended this programme could then go on to deliver this training intervention locally within their organisation. The organisations were also informed that their participation would require them to coordinate the collection of data from participants using a series of evaluation questionnaires, as well as the option to give participants access to the SMBI assessment that would be used as part of this research to explore and develop our understanding of leadership.

Emails were followed up with telephone calls and in total 15 organisations agreed to take part in the training evaluation research study (study II), which represented a participation rate of 30%. Eight organisations also agreed to complete the SMBI assessment, which represented a participation rate of 16% for study I. The lower participation rate for this study was expected due to the time-consuming nature of this assessment and the fact that it necessarily required access to a larger number of participants due to data being collected from both leaders and their followers. Furthermore, several organisations already had similar assessments in place as part of their internal appraisal processes and cited this as their main reason for not wishing to take part in this part of the research. The final list of participating

organisations for each study was reassessed by members of the NHS body who provided the initial access to the organisations and the sample was confirmed as being a good representation of the service.

Each of the participating organisations were asked to identify two trainers who voluntarily put themselves forward for the 'train the trainer' programme and these individuals were subsequently sent a Memorandum of Understanding (MOU) to outline what was expected of them in return for their training places, and to gain their consent to take part in this research. The MOU outlined that each organisation was expected to train a minimum of 50 leaders over the course of a year, and coordinate the completion of the evaluation questionnaires. In addition, the MOU clearly stated that only those individuals who attended the 'train the trainer' course could deliver the training within their organisation; this was done to help ensure there was a consistent standard in the delivery of training across organisations. The eight organisations who opted to complete the SMBI assessment were provided with further information about how this process worked, and their involvement in setting up the online assessment for each cohort of leaders who would go on to attend the 'Supportive Leadership and Management Behaviour' training intervention. The purpose of the MOU was to act as an information guide for participating organisations so that they had a clear understanding of the aims of the research and their involvement. It did not take away from their right to withdraw from the study at any point and it was stressed that involvement was completely voluntary. The 'train the trainer' programmes took place throughout October 2014, with trainers going on to deliver the training and collect evaluation data throughout 2015.

Any potentially identifiable information about the participating healthcare organisations is deliberately omitted here to comply with ethical guidelines. However, the organisations were located across the UK and had not previously participated in the 'Supportive Leadership and Management Behaviour' training intervention or the SMBI assessment. Further information about the participants is provided in the relevant study chapters that follow.

3.2 Ethical practice

Ethical approval was obtained from the Faculty of Medicine and Health Sciences Research Ethics Committee at the University of Nottingham on the 25th February 2014. In addition, the British Psychological Society ethical guidelines were adhered to at all times (BPS Code of Ethics and Conduct, applicable from 2009). The ethical procedures and principles surrounding this research included; keeping participants free from harm, informing participants that their responses were confidential, that they had the right to withdraw without having to provide a reason for doing so and that their involvement was entirely voluntary. Although responses were confidential, they were not anonymous due to the need to collect basic demographic information to allow for the matching of data over time. To ensure that this was clearly communicated to all participants from across participating organisations, a statement was included at the start of all questionnaires and assessments used for data collection within this research. The statement also included the contact details of the research author so that participants could raise any questions or concerns that they might have.

All trainers and the key contacts for each organisation were given the same briefing and standardised instructions prior to collecting any data, as well as being briefed at regular intervals throughout the research. The briefing and instructions included information about the procedure to be followed for the collection and distribution of questionnaires. This included information about the basic demographic data required to assess the sample characteristics and where appropriate, to allow the matching of data across time. In addition, they were made aware of the process of consent; in the case of the online SMBI assessment and follow-up evaluation, consent was obtained through clicking on a button which subsequently submitted their responses, whereas for the pre-training and post-training evaluation questionnaires, participants were verbally advised by their trainers that returning the completed questionnaires was an indication of their consent to participate within the research study. Trainers within each organisation were also provided with copies of the

evaluation materials and were given the opportunity to practise and rehearse their approach to collecting data during their attendance at the 'train the trainer' programme. All data received was stored in line with the Data Protection Act (1998).

3.3 The design and techniques applied

Further information about the techniques and methods are discussed within the relevant study chapters that follow. However, this section will provide a brief overview of the overall design and the decisions behind the methods that are utilised within this research.

Study I involved a cross-sectional design, where data was collected from a sample of leaders and their followers (i.e. their 'raters') at a single point in time using the SMBI assessment.

Study II utilised a prospective, longitudinal design which involved the collection of data from the same participants across three different time points. This approach is favoured when looking to assess trends and changes over time, and has been identified as being particularly appropriate for intervention studies to establish the longevity of any effects (Avey, Luthans, & Mhatre, 2008). Therefore, this design was well suited to the aims and objectives of the second study within this thesis.

Both studies utilised quantitative methods of data collection, which is in line with the practical and objectivist epistemological and ontological stance of the research. Quantitative approaches allow a larger sample to be reached than qualitative data collection methods, and can therefore assist with generalising the findings to a wider population. This type of approach also allows sophisticated statistical analyses to be carried out which can test for the significance of findings (Coolican, 2014; Yilmaz, 2013). Although quantitative approaches have been criticised for simplifying complex realities and failing to uncover the meaning behind findings (Patton, 2002), they are widely considered to be an appropriate approach for research which aims to provide explanations and answers to questions about relationships between variables.

Therefore, and on balance, quantitative methods were well suited to both research studies within this thesis.

Specifically, both studies used some form of questionnaire to collect data. This quantitative data method is reported to have several advantages over qualitative data approaches. From a pragmatic perspective, questionnaires allow a large amount of data to be collected in a relatively short time period. In addition, it is easier to check for reliability and the large samples can help to reduce potential sources of bias (Coolican, 2014). Within this research, the measures used within the questionnaires were assessed for their internal consistency to ensure they were reliable. In addition, the internal validity of the measures was assessed (using confirmatory factor analysis). Although external validity is difficult to achieve using any method, as previously outlined, the organisations included within both studies were deemed to be a good representation of the NHS. In addition, all questionnaires were self-administered, which has the advantage of making social cues less salient, thereby reducing the likelihood of social desirability effects (Nederhof, 1985).

The chapters that follow present more detailed information about each study including the design, sample and measures used, as well as outlining the findings and offering a brief discussion of the interpretation and implications of these findings.

CHAPTER FOUR: STUDY I

4 Overview

In this chapter, the design, sample, procedure and measures used within study I are outlined. The development of measures is discussed, and the reliability and validity of the measures is assessed. The research questions for this study are outlined and the results are summarised and discussed.

4.1 Exploring leadership from a social cognitive perspective

4.1.1 Study overview

In this study, quantitative measures were used to explore the relationship between personal (psychological), environmental and behavioural components of leaders, and the relationship between leadership, the perceived environment and follower outcomes. This study aims to develop our theoretical understanding of leadership through the exploration and application of a social cognitive framework of leadership (Bandura, 1977a, 1986).

A quantitative methodology was used to assess these components using the SMBI assessment. This assessment involved collecting data from the leaders and a self-selected sample of their followers.

4.1.2 Design

The SMBI is an online assessment which explores a range of personal, environmental and behavioural components, as well as attitudes towards the job. The SMBI was completed by leaders from the eight participating organisations prior to their attendance at the 'Supportive Leadership and Management Behaviour' training intervention which is evaluated in study II. In addition, the assessment was also administered to the leader's self-selected sample of followers (i.e. their raters), who scored the leader on their behavioural tendencies. Multiple ratings were given for each leader, but these

scores were combined, and an average follower score was calculated for each leader on each of the items measured. The personal and environmental components of their followers were assessed, as well as followers' attitudes towards the job, to allow for the leader-follower relationship to be explored.

4.1.3 Sample

The leaders from the eight participating organisations who were included within this sample were first line management level, with the majority falling under 'band 7' NHS grading. The follower sample comprised of individuals who report to these leaders.

Overall, the leader sample was comprised of 357 participants (leaders), of whom 277 were female (77.6%) and 80 were male (22.4%). The age of participants ranged between 23 years and 63 years old ($M = 45$, $SD = 8.26$), and tenure in the organisation ranged from 'less than 1 year' to 'more than 15 years', with the majority falling into the latter category (30.8%).

The sample of followers can also be considered as participants within this study. However, since the sample of followers was generated and managed by the leaders themselves, it was necessary to keep their responses anonymous and therefore no identifiable demographic information was requested from this sample. The total sample comprised of 2304 followers; meaning that on average each leader selected between six and seven followers to assess them. As previously mentioned and for the purposes of data analysis, the multiple follower scores for each individual leader were averaged to give a single follower score for each item measured.

4.2 Procedure

The SMBI assessment was administered via an email link to an online system; each leader was given a unique username and password to access this system and they were responsible for completing and submitting the self-assessment, as well as selecting at least three followers (raters) to complete the assessment. The email received by leaders and their followers indicated

that completion of the survey was entirely voluntary, but that their participation would be greatly appreciated to help with this research. Leaders were also offered the opportunity to receive feedback on their assessment in the form of an individualised report. To overcome the potential response bias and positive leniency from followers, all participants were briefed about the importance of honest feedback to facilitate the leader's personal development. Details of the items within this assessment are discussed within section 4.4, and can be found within Appendix A. As previously stated, the SMBI assessment was developed with the author's involvement by an applied psychology consultancy, prior to this research being conducted. Therefore, the development of the measures within this assessment will not be discussed in detail here.

The follower version of the assessment was accessed online in the same way and focused on their perceptions of the leader's behaviour; each follower was asked to indicate the likelihood of the named leader adopting a series of behaviours in several hypothetical scenarios. The follower was also asked to respond to some questions that assessed their perceptions of the working environment, personal components and attitudes towards the job. The primary purpose of the SMBI assessment was to collect data to explore the relationship between personal, environmental and behavioural components to aid our understanding of the leadership process, and the relationship between the leader and their followers.

4.3 Ethical considerations

This study was conducted in accordance with the British Psychological Society ethical guidelines (BPS Code of Ethics and Conduct, applicable from 2009) to ensure that all participants were free from harm and were fully informed about the research process. Participants within this study were briefed about the research in an initial email that was sent to them, which also explained how their data would be used in an aggregated format with the purpose of exploring and developing our understanding of leadership within

the healthcare sector. All participants (leaders and their followers) were made aware that completion of the SMBI assessment was entirely voluntary. They were encouraged to be honest and frank in their responses and were made aware that there were no right or wrong answers. Participants were advised that the assessment would take approximately 20 minutes to complete.

Upon completion of this assessment, participants could click on a 'submit' button where they were then asked to reconfirm that they were happy to submit their responses; this was given as consent for their data to be used as part of this research. All participants (leaders and followers) were made aware that upon submission, responses would be entered into a secure database. Therefore, participants were informed that after submission, responses could not be withdrawn as it would not be possible to identify individual scores. If participants decided they did not want to submit their responses, they could simply click on the button to 'cancel' their assessment. Once the participant's responses had been submitted, they were thanked and provided with the author's contact details in case they had any questions or concerns about this research or how their data would be used. Responses were extracted into an SPSS database (SPSS version 22.0).

Follower scores were kept anonymous to ensure that they could not be made identifiable to the leader. This was done to encourage followers to be honest in their assessment of the leader and their own personal and environmental components. As previously mentioned, to give leaders the opportunity to receive an individualised report with their aggregated feedback, leader responses were confidential but not anonymous. Basic demographic information was collected from each leader to allow their data to be matched to their follower data and to their profile on the online system which the assessment was managed through. To ensure the transparency of this process, this was clearly communicated to each leader as part of the initial information presented to them at the point of accessing the assessment. The system was set up in a way that allowed the leader to have their own unique (automatically generated) login details to access the system and their report, and these login

details were not shared with anyone else. The system supporting the SMBI assessment did not allow a report to be produced until such time that three or more followers had completed the assessment. The report contained the contact details of the author should they have any concerns or questions about its content.

4.4 Measures

Table 4.1 summarises all measures included within the SMBI assessment, including a breakdown of the measures completed by the leader and those completed by their selected followers. In addition to these measures, basic demographic information was also collected including age, tenure, employment grade and gender.

Table 4.1: Measures used within study I

	Leaders' self-assessment	Followers' assessment of the leader	Followers' self-assessment
Personal components	✓		✓*
Behavioural components	✓	✓	
Environmental components	✓		✓*
Organisational commitment			✓
Job satisfaction			✓

* *A shortened version of this measure is used for the followers' self-assessment. This is discussed in further detail in the sections that follow.*

Further information about each of the measures used and their psychometric properties is provided in the sections that follow.

4.4.1 Personal components

Assessing personal components from the leader's perspective

The measure of leaders' personal components was designed based on research around the four state-like constructs of capability (self-efficacy),

optimism, resilience and expectancy (hope), which together make up the construct of psychological capital (Luthans & Youssef, 2004). The construct of psychological capital has been shown to have discriminant validity from other positive trait-like constructs (Judge, Erez, Bono, & Thoresen, 2003), and its distinction as a state has practical implications as it suggests that it can be developed and promoted within leaders. Test-retest validity has shown that psychological capital is more stable than other states such as emotions, but more malleable to change than fixed traits such as personality (Luthans et al., 2007a).

As outlined earlier, and within the research literature, psychological capital has been identified as an important personal resource that authentic leaders draw upon (Luthans & Avolio, 2003; Rego et al., 2012). This positive psychological state encourages the leader to personally develop, as well as promoting the development of their team through positive modelling (Gardner et al., 2005). Research also demonstrates that positive psychological capital can predict work performance and work attitudes (Luthans et al., 2008; Youssef & Luthans, 2007), and as such it is increasingly being recognised as an important aspect of leadership.

Within the SMI assessment, the personal components of leaders were measured through adapting the measure of psychological capital created by Luthans et al. (2007a, 2007b). The following subscales form the basis of the psychological capital measure; role breadth self-efficacy (Parker, 1998), hope (Snyder, Sympton, Ybasco, Borders, Babyak, & Higgins, 1996), life orientation test-optimism (Scheier & Carver, 1985) and resilience (Wagnild & Young, 1993). The measure of psychological capital designed by Luthans et al. (2007a, 2007b) reduces these subscales to six items each, and comprises a total of 24 items.

However, and in order to create a measure that would not be subject to any licence restrictions, the items used within this study are based upon this measure of psychological capital but have been re-worded to apply to leaders within organisations. The measure was created as part of previous unpublished research, which involved conducting focus groups with a sample of healthcare

staff to establish the key psychological resources that are required for effective leadership within a work-based and healthcare context. The adapted items were designed to assess the same four sub-scales assessed by the psychological capital measure, and was comparable in terms of the number of items used in total and for each sub-scale. An initial factor analysis conducted as part of this previous research resulted in a single factor, with two items being removed due to cross-loading. Therefore, the measure used within this research was based on the remaining 22 statements (items).

To assess the construct validity of this measure within this research sample, several tests were used. Firstly, to assess the factor structure, an exploratory factor analysis (principal axis factoring) was carried out. To assist the reader in interpreting the results at each stage, the items have been coded as shown in Table 4.2.

The distribution of data was explored in the full sample of 357 leaders; the dataset was checked, and no missing data was found. Within the research literature, there is general agreement that a sample over 200 or 300 is good practice for conducting a factor analysis, as this helps to ensure a stable factor solution (Tabachnick & Fidell, 2013; Tinsley & Kass, 1979). The sample used within this research exceeded this minimum recommendation. Items were measured on a scale of 1 to 7 (1 = strongly disagree to 7 = strongly agree). The mean scores of the items range from 3.18 to 5.64.

Table 4.2: Items used in the measure of personal components

Observed variable name	Item code
I feel confident contributing to discussions about the organisation's strategy	Pers1
I feel confident in my ability to deal with poor performing employees	Pers2
I feel confident in my ability to get the best performance out of my staff	Pers3
I feel confident in my ability to resolve interpersonal conflict between staff	Pers4

Observed variable name	Item code
I feel confident in my ability to challenge senior management when necessary to do so	Pers5
I feel confident that I can successfully put across my point of view on work matters	Pers6
I feel confident that I can overcome any obstacle and/or setback that impacts on the performance of the people I manage	Pers7
I feel confident that I can give negative performance feedback to my staff when necessary	Pers8
I feel confident that I can remain positive about my role despite obstacles and/or setback	Pers9
I feel confident that I can quickly change my approach should the situation demand it	Pers10
I feel confident that I can motivate all my staff	Pers11
I feel confident that I can obtain the support of my work group when I need to	Pers12
I approach this job as if "every cloud has a silver lining"	Pers13
I often feel unsure about how best to tackle the difficulties I face at work	Pers14
I often feel unprepared for situations I have to deal with at work	Pers15
I often find myself worrying about work issues	Pers16
When I hit difficulties at work I'm able to re-think and find a way to solve the problem	Pers17
At the moment, when problems arise at work, I have the flexibility to cope with them	Pers18
When faced with setbacks at work I sometimes feel like I'm a failure	Pers19
I rarely feel discouraged by events at work	Pers20
I usually feel sure of my judgement in a crisis at work	Pers21
I have the self-discipline to make sure I finish the work tasks that I start	Pers22

A frequency analysis of the data was conducted, and the data was reviewed to check for normal univariate distribution; the output showed skew was within the acceptable limits of ± 2 (George & Mallery, 2003), and kurtosis was within the acceptable limits of ± 5 (Kendall & Stuart, 1958). Sampling adequacy was tested using the Kaiser-Meyer Olkin (KMO) test; this was found to be within acceptable limits of between .8 and .9. The KMO values for individual variables were shown to be above .7, indicating that factor analysis

was appropriate (Hutcheson & Sofroniou, 1999). The determinant of the R-matrix was shown to be greater than 0.00001, indicating that there were no problems with multicollinearity (Field, 2013).

Principal axis factoring looks to understand the shared variance of variables. Using this technique, the factors represent common variance excluding unique variance. Oblique rotation (direct oblimin) was used on the basis that there is theoretical reason to believe that the underlying factors of this measure of personal components would be related. This is in line with what has been found within the similar measure of psychological capital (Luthans et al., 2007a, 2007b). The factor analysis was interpreted against widely accepted criteria for determining a reliable factor structure. Specifically, factors were retained if they had an eigenvalue greater than 1 (Kaiser, 1960) and variables were kept if they loaded .4 or greater on a factor (Floyd & Widaman, 1995; Stevens, 2002). The scree plot was also used to visually assess the number of factors to be retained (Field, 2013). Strict parameters were set to avoid cross-loading; items were removed if they were found to load at .32 or higher on two or more factors, as recommended by Costello and Osborne (2005), and a minimum difference of .2 was required between item loadings on factors. In addition, items were required to score above .3 on communalities; which indicates the common variance in the data structure by the extracted factors. Using these criteria, 11 items were retained.

Unlike the measure of psychological capital created by Luthans et al. (2007a, 2007b), the exploratory factor analysis of the bespoke items used to assess the personal components of participants within this research revealed a three-factor solution (see Table 4.3), which together explained 64% of the variance. The items that cluster on to factor 1 (PF1) represent leaders' self-efficacy in managing performance, whereas factor 2 (PF2) represents leaders' lack of self-efficacy in their ability to lead effectively. Finally, factor 3 (PF3) represents leaders' belief in their ability to make a positive contribution within the workplace.

Within factor 1 the range of variance explained for by an individual item ranged from 42% to 72%; for factor 2 the variance explained ranged from 25% to 53% and for factor 3 the variance ranged from 29% to 66%, which are all well above the 16% of variance recommended by Stevens (2002).

Table 4.3: Factor loadings of personal components

Item code	Factor 1 Loading (PF1)	Factor 2 Loading (PF2)	Factor 3 Loading (PF3)
Pers2	.85	.04	.05
Pers4	.81	.03	.01
Pers3	.75	.01	.02
Pers8	.72	.01	.05
Pers7	.65	.02	.05
Pers16	.04	.73	.10
Pers19	.10	.66	.09
Pers15	.05	.53	.13
Pers14	.05	.50	.09
Pers1	.02	.00	.82
Pers5	.22	.05	.54
Eigenvalue	4.38	1.67	1.03

To test this three-factor solution, a confirmatory factor analysis was carried out using 'R'; a free statistical computing software environment. Specifically, the 'lavaan' package for Structural Equation Modelling (SEM) was used (Rosseel, 2012), alongside the 'SemPlots' package (Epskamp, 2013). 'R' was used for all confirmatory factor analyses carried out on the measures within this study because of its ability to perform structural equation modelling on data that demonstrates multivariate non-normality. This is achieved using Robust Maximum Likelihood Estimation (MLR) with the Yuan-Bentler correction for the model fit indices. In the case of the dataset used within this study, this was recommended as Mardia's coefficient was found to have p -values for skewness and kurtosis of less than .05, indicating multivariate non-normality (Mardia, 1974). There was no missing data, and checks for outliers, high leverage points and influential observations (using Mahalanobis distance, leverage values and Cook's distance) revealed no points of concern in the data.

It should be acknowledged that the measure of personal components was assessed using Likert-type scales. SEM programmes such as 'lavaan'

assume that data is continuous. Theoretically it can be argued that in this situation the researcher should treat the variables as ordinal, and use a polychoric/tetrachoric correlation matrix. However, the underlying distribution of the constructs measured can be treated as continuous and many researchers have demonstrated that statistically there is little difference when the response scales have five or more points, as is the case with the measures used here (Rhemtulla, Brosseau-Liard, & Savalei, 2012). Therefore, the decision to use the 'lavaan' programme for performing SEM analyses could be justified.

Confirmatory factor analysis tests the relationship between observed variables and latent variables based on a priori hypotheses and accommodates for measurement error. In this sense, it is a theoretically driven approach; it allows the proposed model to be compared against the actual empirical data and is evaluated statistically using model fit indices. This includes measures of absolute goodness of fit (which tests how well the proposed model reproduces the sample data), and comparative or relative fit indices (which assess improvement in fit between the proposed model and a baseline model). There is still a lack of agreement over which indices to use to determine an 'acceptable' model fit, and cut-offs for fit indices are often misleading (Byrne, 2001; Hayduk, Cummings, Boadu, Pazderka-Robinson, & Boulianne, 2007). However, much of the existing literature (e.g. Byrne, 2001; Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996; Ullman, 2013) reports the following model fit indices as guidelines of a good model fit, and have subsequently been used as the criteria within this research:

- **χ^2 *p*-value > .05** (Chi-square statistic: compares the observed covariance matrix with the proposed covariance matrix. A non-significant result suggests that the hypothesised model is consistent with the observed data).

Absolute fit indices: These indices are based on the best fitting model having a value of 0 and explore how far the model is from this perfect fit. Therefore, generally the larger the absolute fit indices, the worse the fit:

- **SRMR < .08** (Standardised Root Mean Square Residual; looks at the difference between the observed correlation and the predicted correlation)
- **RMSEA < .10** (Root Mean Square Error of Approximation: Standardised measure of error approximation, looking at the discrepancy per degree of freedom in the model. Ideally, this value would fall below .08; however, in smaller samples the RMSEA value can be artificially inflated and so a less conservative cut-off of .10 was utilised here.

Comparative fit indices (incremental fit indices): Models are placed on a continuum between 0 and 1; where 1 indicates the best possible model. Both the TLI and the CFI consider model complexity:

- **TLI > .95** (Tucker-Lewis Index: also known as the non-normed fit index; it compares against a baseline model)
- **CFI > .95** (Comparative Fit Index: it compares against a baseline model with uncorrelated variables)

In summary, Hu and Bentler (1999) state that a combination of SRMR, TLI, CFI and RMSEA should be used to indicate whether there is a good model fit. Combined, these measures are sensitive to models that have misspecified factor covariance and/or loadings.

However, fit indices should be interpreted with caution. Whilst the research literature outlines that a non-significant value for X^2 is deemed to be an indicator of a good model, this is not without its limitations. There are other important measures of fit to consider before concluding that the model is a poor fit based solely upon a significant X^2 value (Byrne, 2001; Ullman, 2013). Researchers have identified that a non-significant X^2 value is hard to obtain (Hoyle, 2012; Newcomb, 1994); the value is likely to be inflated in samples that have over 200 cases, wrongly suggesting that there is a poor model fit (Schumacker & Lomax, 2004). In fact, minor misspecifications of the model can result in the rejection of the model. The X^2 value is also affected by the size of

the correlations within the model, with large correlations resulting in a poor fit. Models with a greater number of variables are also likely to have a larger χ^2 value. Hence this research has incorporated a range of fit indices to help determine whether the model should be rejected or accepted; for example, the CFI has deliberately been included as this index is independent of sample size. In addition, the use of MLR estimation produces χ^2 values and standard errors which are robust to multivariate non-normality. It should be noted that whilst these indices are designed to act as a guide, Byrne (2001) warns; “assessment of model adequacy must be based on multiple criteria that consider theoretical, statistical and practical considerations” (p.88). This is taken into consideration in the analyses that follow.

The confirmatory factor analysis was carried out in the full sample of 357 leaders with no data missing. The proposed three-factor model was tested against the model fit indices and revealed a good fit except for the significant χ^2 value (see Table 4.4). However, and on balance with the other acceptable fit indices, it was not deemed necessary to modify the model.

Table 4.4: Model fit statistics for personal components

Model version	χ^2	SRMR	TLI	CFI	RMSEA
1 ($N = 357$)	$\chi^2 (41) = 59.28, p = .03$	.04	.98	.98	.04 (LO 90 = .01, HI 90 = .05)

As no changes were made, it was not strictly necessary to cross-validate the model in a separate sample and had this been required the sample size would have made cross-validation difficult to achieve. The model is shown in Figure 4.1; where the circular shapes represent the latent (unobserved) variables and the rectangles represent the observed, manifest variables. The single arrow lines represent the direct relationship between variables. The standardised factor loadings of the model variables are shown on the single arrow lines connecting the latent and observed variables.

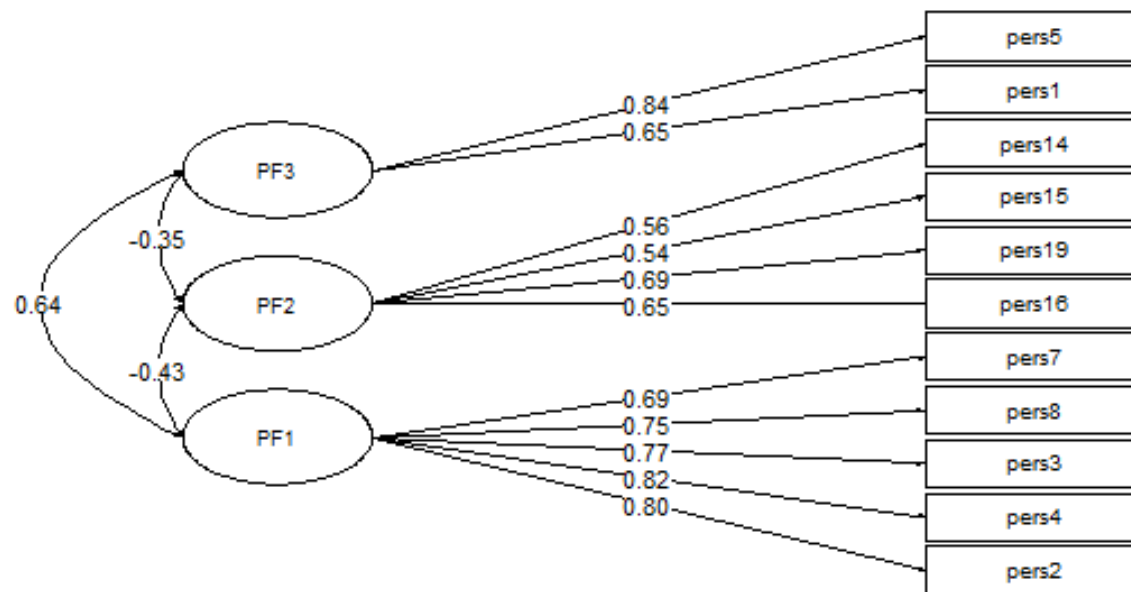


Figure 4.1: Model of personal components

Notes: PF1 = Self-efficacy: managing performance; PF2 = Lack of self-efficacy; PF3 = Self-efficacy: positive contribution

In summary, within this sample of leaders ($N = 357$), the measure of personal components formed three factors; leaders' self-efficacy in relation to managing performance (PF1) was made up of five items ($\alpha = .87$); leaders' perceived lack of self-efficacy in their ability to lead effectively (PF2) was made up of four items ($\alpha = .71$) and finally, leaders' belief in their ability to make a positive contribution in the workplace (PF3) was made up of two items ($\alpha = .70$).

Assessing the personal components of followers

In addition to measuring the personal components of the leader, the SMBI assessment also asked their followers to respond to items relating to their own personal components. Given the fact that followers were not necessarily in positions of leadership or management, it was not deemed appropriate to include items relating to confidence in managing performance. Therefore, these items were excluded from the follower version of the assessment, meaning that the previously determined factor 1 (PF1) was redundant in the follower sample. In addition, the follower assessment utilised a shortened version of the personal components measure due to the practical time constraints imposed by the participating organisations to limit the disruption to the workforce. Therefore, the decision was made to include items that were deemed most widely applicable to followers, regardless of role and level, and to remove items that referred to any aspect of management or leadership. Subsequently, a single item was used to assess followers' optimism; 'I feel confident that I can remain positive about my role despite obstacles and/or setbacks' and a single item was used to assess their self-efficacy in relation to their personal adaptability 'I feel confident that I can quickly change my approach should the situation demand it'.

The decision to focus specifically on optimism and self-efficacy in relation to personal adaptability as personal components for the followers was based on a review of the literature into personal resources required for employees within the modern workplace. Personal adaptability is increasingly being

identified as an important resource to help individuals to perform within a shifting landscape of work that is characterised by changes in technology, structure and roles (Herold, Fedor, Caldwell, & Liu, 2008; O'Connell, McNeely, & Hall, 2008). Research has also shown that leaders play a role in helping individuals to adapt through the behaviours they display; a supportive leader acts as a resource and can strengthen the beliefs that their followers have in their ability to adapt their approach. Conversely, an unsupportive leader can act as a demand through creating barriers and obstacles (O'Connell et al., 2008). This is demonstrated in a study conducted by O'Connell et al. (2008) which found that managerial support was the only factor to be significantly related to personal adaptability. Subsequently, the relationship between leadership and follower personal adaptability will be further explored within this research.

Similarly, optimism is an important personal component to explore as for an individual to believe in their ability to adapt their approach, they must expect positive outcomes (i.e. be optimistic). This will subsequently influence the levels of effort and persistence they show. Like personal adaptability, optimism is seen to be a state that can be developed (Seligman, 2011). It is also highly influenced by the context or environment in which the individual operates and is associated with physical, psychological and work-related benefits (Kluemper, Little, & Degroot, 2009). The leader can influence the environment in which the individual operates through their behaviour, and so the relationship between leader behaviour, the perceived environment and follower optimism becomes an important area of research within this study.

Convergent and divergent validity

To assess convergent and divergent validity, the three-factor measure of leaders' personal components was correlated with the items that make up the Psychological Capital (PsyCap) measure (Luthans et al., 2007a, 2007b). Self-efficacy for managing performance (factor 1) was shown to positively correlate with the PsyCap measure; $r(357) = .67, p < .001$. According to Evans (1996), this

indicates a 'strong' correlation. Similarly, lack of self-efficacy (factor 2) was shown to have a weak but significant negative correlation with the PsyCap measure; $r(357) = -.33, p < .001$. Finally, leaders' self-efficacy judgments about their ability to make a positive contribution to the workplace (factor 3) had a positive and strong correlation with the PsyCap measure; $r(357) = .64, p < .001$. This helps to validate the use of the three-factor measure of personal components as a way of assessing the personal or psychological resources (capital) of leaders. As the focus of this research is to explore positive forms of leadership and their positive personal capacities, the decision was made to use factor 1 and factor 3 of this measure of leaders' personal components for all subsequent analyses.

4.4.2 Behavioural components

Assessing behavioural components from the leader's perspective

The measure of behavioural components was informed by the Authentic Leadership Questionnaire (ALQ) created by Walumbwa et al. (2008). Authentic leadership theory recognises the importance of acting in a transparent way, which has been identified as a key issue within some modern organisations. In addition, the positive behaviours exhibited by authentic leaders can encourage followers to feel more satisfied, engaged and committed at work (Avolio et al., 2004; Gardner et al., 2005; Penger & Černe, 2014; Walumbwa et al., 2008). In addition, authentic leaders encourage followers to personally identify with them and internalise their beliefs; meaning that the leader can influence and develop the personal components (e.g. optimism, resilience) of their followers (Avolio et al., 2004; Avolio & Gardner, 2005). Research into authentic leadership effectively highlights how leadership is a social cognitive process; whereby followers learn and develop through their interactions with and observations of the leader. The authentic leader, through their behaviour, can build trust as well as inspire, motivate and empower their followers. Through their own personal, environmental and behavioural components, authentic leaders can create an environment that facilitates the development of

followers' personal components and subsequent behaviour. For this reason, the behavioural components measured within the SMBI were based upon authentic leadership.

The ALQ is comprised of 16 items broken down into four subcategories (self-awareness, relational transparency, balanced processing and internalised moral perspective). However, as authentic leadership is a relatively new concept, several concerns have been raised about its measurement and the need for further research in this area. Specifically, there have been criticisms about the validity of the ALQ. Walumbwa et al. (2008) used a small sample for the content validation process, meaning it is very subjective (Neider & Schriesheim, 2011). Similarly, the small sample used by Walumbwa et al. (2008) for the factor analysis goes against best practice, and as such the measure arguably needs to be refined and rigorously tested.

Neider and Schriesheim (2011) attempted to overcome some of the weaknesses of the ALQ measure by developing an alternative measure of authentic leadership; the Authentic Leadership Inventory (ALI). The ALI has been found to have good internal consistency reliability and Neider and Schriesheim (2011) also included a measure of impression management to take into consideration social desirability. They reported that this did not reveal any problems, with the largest correlation accounting for only 0.8% of the shared variance. They argued that authentic leadership should not be treated as a global construct, but showed that the four separate dimensions of self-awareness, relational transparency, balanced processing and internalised moral perspective proved a better fit in their data. Furthermore, the ALI was shown to have discriminant validity from transformational leadership using the Transformational Leadership Inventory (TLI). Despite this, the ALQ remains the most frequently used measure of authentic leadership (Gardner, Cogliser, Davis, & Dickens, 2011).

Given the somewhat inconsistent findings between some of the existing measures of authentic leadership, as well as licence restrictions and the poor measurement processes used, the decision was made to use an adapted

version of the original ALQ measure. This adapted measure incorporates scenarios that are specific to healthcare organisations (the target population). As part of previous unpublished research by the author, focus groups were conducted with a sample of staff across healthcare organisations to help identify common scenarios that leaders encounter. In total, three scenarios were created which were deemed to be common and realistic of leaders within these organisations. The scenarios were designed to help the respondent to contextualise the behavioural ratings, and to provide a common basis for assessment. In addition, the 16 items from the ALQ measure were slightly reworded to form the behavioural items that leaders were to be assessed against. These adapted items were designed to map onto the four behavioural subcategories of the ALQ measure. However, a factor analysis that had been conducted as part of previous unpublished research resulted in an item being removed due to its poor factor loading, and revealed a 15-item, two factor measure.

This formed the basis of the measure used within the SMBI assessment, and each leader (participant) was asked to rate how likely they would be to act in the ways described by the items to each given scenario. In addition to this, the leader's followers were asked to indicate how likely they thought the named leader would act in the ways described. The three scenarios are outlined below. The text in brackets indicates the change in wording based on the respondent (i.e. the leader or their followers).

1. (You/the named leader) receive(s) a complaint from a member of your (their) team indicating that another member of the team is not performing at their job and is not pulling their weight. The complainant suggests that other members of the team are growing increasingly frustrated by the situation.
2. (You/the named leader) have (has) just returned from leave and have (has) received feedback from a senior manager that they are angry that you (they) have not completed a task. Prior to going on leave, (you/the named leader) had delegated this task to someone

in your (their) team. For some reason, the task was neither completed nor submitted. You (they) have now been told that this task must be completed within the next two days. Unfortunately, your (their) team is running at full capacity and has multiple high priority jobs to complete. Allocating any time to the task will ultimately mean that other high priority tasks that (you/the named leader) have (has) responsibility for are likely to be delivered late.

3. Following a recent senior management meeting, an announcement has been made indicating there are problems with specific working practices across the organisation and that changes are required. The team managed by (you/the named leader) is currently under pressure facing increased levels of workload and performance issues. (You/the named leader) have (has) been told by your (their) manager of the need to change working practices and have (has) been given just four weeks by which to implement the necessary changes. As far as you (they) are aware, the changes required will have a significant impact on your (their) team and is likely to cause further performance problems.

A total of 15 items were used in this measure of behaviour, with participants indicating how likely they believe they/their leader would demonstrate these behaviours in relation to each of three scenarios outlined previously. Once again, the construct validity of this measure was assessed using an exploratory factor analysis (principal axis factoring) and oblique rotation. The exploratory factor analysis was carried out on the behaviour data gathered in response to the first scenario. To assist the reader in interpreting the results at each stage, the items are coded, as shown in Table 4.5.

Table 4.5: Items used in the measure of leader behaviour

Observed variable name	Item code
I would set time aside to resolve the matter	BF1
I would take time to review all the necessary information before deciding on what to do next	BF2
I would use this as an opportunity to try to get people to work together better	BF3
I would treat all staff fairly	BF4
I would look to solve the problem in a way that reflects a concern for everyone's well-being	BF5
I would offer to make myself available to all staff members involved to discuss this matter ^{1W2}	BF6
I would take steps to get everyone involved to put across their views	BF7
I would make my views known to everyone concerned about what needs to be done to resolve the matter	BF8
I would decide what I think is best and simply tell people what to do	BF9
I would let people know exactly how I feel about the situation	BF10
I would impose my own point of view about how the situation needs to be handled or resolved	BF11
I would criticise someone if I thought they were in the wrong	BF12
I would avoid blaming anyone	BF13
I would actively seek out as much information as possible from as many sources before coming to a decision	BF14
I would make this a priority given other tasks or responsibilities	BF15

The process and criteria used have not been outlined in detail here to avoid repetition but can be found within the previous section as part of the development of the personal components measure (see section 4.4.1). The measure of behavioural components was validated in a univariate normally distributed sample of 357 leaders, with no missing data. Items were measured on a 5-point scale; 1 (Very unlikely), 2 (Unlikely), 3 (Neither unlikely nor likely), 4 (Likely) and 5 (Very likely). The mean scores of the items range from 2.18 to 4.66.

The exploratory factor analysis revealed a two-factor solution (see Table 4.6), explaining 50% of the variance. The items that cluster on to factor 1 (BehF1) represents inclusive and participative leadership behaviour; where the

leader considers the needs and perspectives of their staff, whereas factor 2 (BehF2) represents autocratic leadership behaviour (where the leader dictates how things should be done without input from others). Within factor 1 the range of variance explained by an item ranged from 29% to 64%, and within factor 2 the variance ranged from 25% to 35%.

Table 4.6: Factor loadings of behavioural components

Item code	Factor 1 Loading (BehF1)	Factor 2 Loading (BehF2)
BF1	.80	.04
BF2	.74	.06
BF3	.68	.09
BF4	.67	.06
BF5	.66	.05
BF6	.57	.15
BF7	.54	.11
BF8	.18	.59
BF9	.10	.57
BF10	.13	.53
BF11	.04	.51
BF12	.14	.50
Eigenvalue	3.75	2.20

A confirmatory factor analysis was carried out on the data collected from the first scenario using MLR estimation. This analysis was carried out on the full sample of 357 leaders. The two-factor solution was assessed against the widely-accepted model fit criteria outlined earlier (see section 4.4.1).

As shown in Table 4.7, inspection of the model fit indices revealed that whilst there was good fit across some of the indicators; improvements could be made to the overall model fit. After exploring the modification indices, a decision was made to remove the item 'BF8' as this was shown to be one of the largest modifications possible between the latent and observed variable. In addition, when reviewing the item, it was recognised that it could be open to interpretation, and therefore its removal would help to protect against potential issues associated with the ambiguity of the item. The fit indices for model 2 are shown in Table 4.7. Although the χ^2 value remained significant, there was an improvement across most of the model fit indices and as a result model 2 was accepted.

Table 4.7: Model fit statistics for behavioural components

Model version	X ²	SRMR	TLI	CFI	RMSEA
1 (<i>N</i> = 357)	X ² (43) = 118.13 <i>p</i> < .001	.07	.90	1.0	.07 (LO 90 = .05, HI 90 = .09)
2 (<i>N</i> = 357)	X ² (34) = 72.98 <i>p</i> < .001	.05	.95	.95	.06 (LO 90 = .04, HI 90 = .08)

Ideally, this second adapted model would be cross-validated in a separate sample (Tabachnick & Fidell, 2013). However, it was not possible to recruit a new sample. In addition, and given the relatively small sample size it was also not recommended to extract random samples to validate this measure in. However, this lack of cross-validation was not considered to be a concern given that there were no substantial changes to the model, and only one item (BF8) was removed.

The accepted model 2 can be seen in Figure 4.2, and this will be used to inform subsequent analysis within this research. In summary, within this sample (*N* = 357), the scale of inclusive and participative leadership behaviour (BehF1) is made up of six items (α = .81), and the scale of autocratic leadership behaviour (BehF2) is made up of four items (α = .60). The coefficient alpha scores shown were based on the behavioural scores given in response to the first scenario. However, the average score across all three scenarios was also computed for inclusive/participative behaviour (BehF1) and autocratic behaviour (BehF2). The internal reliability of these averaged measures was .84 and .80 respectively.

The scale of inclusive and participative leadership behaviour is in line with authentic leadership theory; the promotion of inclusive, positive work environments is a fundamental role of authentic leaders (Avolio & Gardner, 2005). Arguably, this factor maps strongly on to the ‘balanced processing’ aspect of authentic leadership proposed by Walumbwa et al. (2008), but also underlies the pattern of ethical and transparent behaviours that authentic leaders adopt (Avolio et al., 2009a).

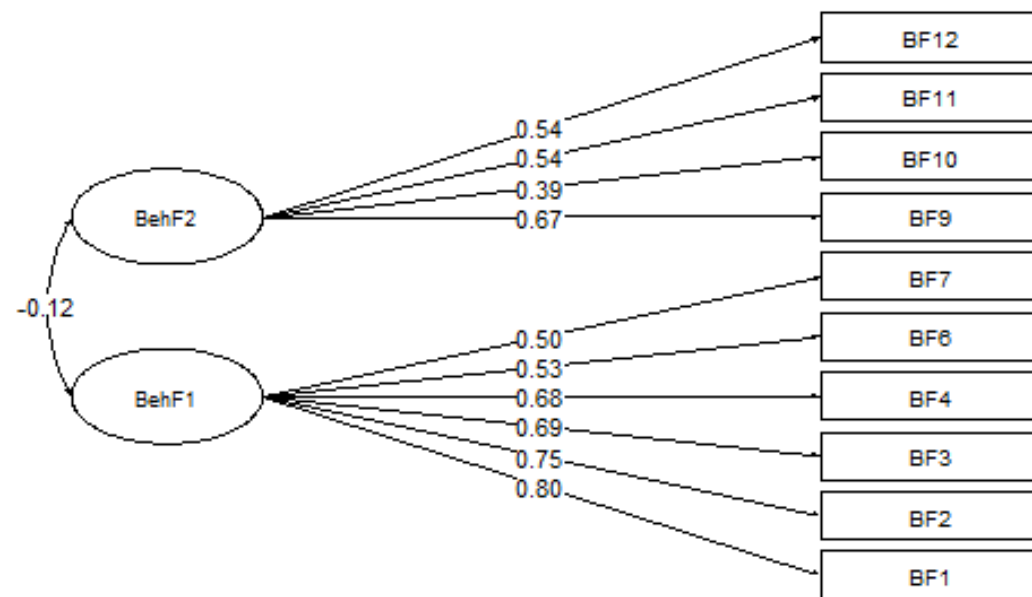


Figure 4.2: Model of behavioural components

Notes: BehF1 = Inclusive/participative behaviour, BehF2 = Autocratic behaviour

Assessing behavioural components from the follower's perspective

In addition to their own self-assessment, the leader's behaviour was also assessed by their followers. Assessing the leader's behaviour from different perspectives helps to provide a more reliable account of their behaviour. The items asked of the followers were identical to those outlined previously, except the word 'I' was replaced with the leader's name or 'they'; for example, the item 'I would let people know exactly how I feel about the situation' was changed to '(leader's name) would let people know exactly how they feel about the situation'. Therefore, the same factor structure applies to the behavioural items assessed by followers.

The internal reliabilities were explored across the averaged follower scores for responses to scenario 1. The reliabilities were shown to be acceptable for both inclusive/participative leadership behaviour ($\alpha = .93$) and autocratic leadership behaviour ($\alpha = .78$). An average behaviour score across all three scenarios was also computed for inclusive/participative behaviour (BehF1) and autocratic behaviour (BehF2). The internal reliability of these average measures was .95 and .92 respectively.

Convergent and divergent validity

The two factors within this bespoke leadership behavioural measure were correlated with the ALQ developed by Walumbwa et al. (2008). Inclusive and participative leadership behaviour (BehF1) correlated with the ALQ; $r(357) = .54, p < .001$. According to Evans (1996), this indicates a 'moderate' correlation. However, the scale of autocratic leadership behaviour (BehF2) did not significantly correlate with the ALQ; $r(357) = .06, p = .30$. This pattern of results is to be expected as the ALQ focuses on positive, inclusive and transparent behaviours which are in line with the inclusive and participative behaviours assessed by factor 1 (BehF1) within this behavioural measure. This finding provides validation for the use of this behavioural factor within this research as it compares well to the already established measure of authentic

leadership behaviour. Given that the aims of this research were to primarily explore more positive, authentic forms of leadership, the decision was made to exclude the autocratic leadership factor (BehF2) from subsequent analyses.

4.4.3 Environmental components

Assessing environmental components from the leader's perspective

The measure of environmental components was developed as part of previous, unpublished research, with involvement from the author. As part of its development, focus groups were carried out with a sample of staff and leaders from across healthcare organisations. The focus groups identified a range of psychosocial work characteristics that were believed to have an impact on an individual's ability to perform and operate optimally, including; demands, resources, control, meaning, social resources and the sense of reward and recognition staff experience for the work they do. These characteristics have also been established within the wider research literature as being important predictors of health, well-being and performance at work, and are outlined briefly here.

Demands can refer to physical, psychological, social and organisational aspects of the job which involve sustained physical or cognitive and emotional effort (Bakker & Demerouti, 2007). Over time, high levels of demands can have physiological and psychological costs (Schaufeli & Bakker, 2004). Resources are also studied in conjunction with demands but are defined by their ability to reduce demands and to assist with reaching work goals. Resources are important as they motivate and encourage personal growth, but critically, the balance between demands and resources has been shown to predict better health and work engagement (Demerouti et al., 2001).

Control is also an important factor within an individual's work environment; it refers to the extent to which an individual has influence over the way in which they complete their work tasks. When an individual has high levels of control (autonomy) at work, this may effectively become a resource

and can buffer the negative impact of high demands so that they are perceived to be more manageable (Karasek, 1979). Similarly, self-determination theory highlights how autonomy is essential for greater well-being and motivation; it forms a basic need which can result in positive outcomes when satisfied through an individual's job role (Deci & Ryan, 1985).

Meaning has also been recognised as an important factor within an individual's work environment; it determines how motivated, engaged and satisfied an individual is at work. It refers to the sense of purpose an individual may experience through their current job role and is crucial for successful leadership. For many, working life constitutes half of their waking hours (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997) and research suggests that financial reward alone is not enough to secure well-being (Seligman, 2002). Therefore, a sense of purpose and meaning is necessary for staff health and well-being, as well as having behavioural, emotional and attitudinal impacts (Wrzesniewski, 2003). A leader needs to be able to engage their followers and create a shared vision and purpose, but this will be difficult to achieve if the leader does not experience meaning and purpose from their own job role.

Another characteristic of the work environment is the psychological sense of community (Sarason, 1974) and perceived social resources available to leaders. This refers to interdependent team working; having a shared emotional connection, high levels of trust, and a sense of belonging to a greater whole. This incorporates social support which can help individuals to cope with job demands (Demerouti et al., 2001). Effective leaders will have positive relationships with their followers, and are seen to be approachable and supportive, which contributes to their overall sense of community and the perceived social resources available to them. Social support may be informational, emotional or instrumental (Thoits, 2011). If leaders do not build this social support network, it can be difficult for them to gain followership and perform optimally. Research suggests that social support can reduce the likelihood of an individual experiencing burnout and stress (Jenkins & Elliott, 2004).

Lastly the importance of reward and recognition was identified, which refers to the level of recognition an individual receives from their work, and how valued and appreciated they feel. A work environment that is characterised by positive reward and recognition of both employees and leaders is likely to foster more positive attitudes towards work. This may be explained by the effort-reward imbalance model (Siegrist, 1996), which states that individuals are most content when there is a balance between the efforts they exert and the rewards they receive. Efforts can include working hard on a specific task, spending more time than usual on a task or going the extra mile to do a job well. Individuals can be rewarded by various means at work including; money, career opportunities, job security, recognition or positive feedback. An imbalance can occur when efforts outweigh rewards; when an individual expends a high level of effort into the work they are doing and receive inadequate rewards. Often, employees have no choice but to accept an effort-reward imbalance because they have nowhere else to go; they may lack the skills or mobility to find a job elsewhere. However, this imbalance can lead to strong experiences of stress and have profoundly negative effects on psychological well-being. If this imbalance occurs frequently, the individual can start to feel that they are being treated unfairly and that others are discriminating against them.

To measure the different aspects of the psychosocial work environment, 28 items were developed based on the key themes generated from the focus groups, as well as being informed by existing measures and areas identified within the research literature (e.g. Bakker & Demerouti, 2007; Demerouti et al., 2001; Karasek, 1979). As with the measures of leaders' personal and behavioural components, the measure of environmental components used within this study was tested to assess its validity and factor structure through an exploratory factor analysis (principal axis factoring) using oblique rotation (direct oblimin). All items included within this measure of environmental components are shown in Table 4.8, along with their corresponding item code to assist the reader. The items were assessed in a univariate normally

distributed sample consisting of 357 leaders, with no missing data. Items were measured on a frequency scale of 0 (Never) to 4 (All the time). The mean scores on the items range from 1.32 to 3.34.

Table 4.8: Items used in the measure of environmental components

Observed variable name	Item code
Experiencing a real sense of community within my team	Env1
Experiencing a real sense of community within this workplace	Env2
Sharing a genuine personal connection with co-workers	Env3
My work colleagues (peers) will make themselves available if I need their support to deal with work-related issues	Env4
Sharing a strong sense of purpose with co-workers about what is important in the job	Env5
Feeling a constant pressure to keep working	Env6
Having to work very fast to complete my tasks	Env7
Having too many things to do and not enough time in which to do them	Env8
Doing work that I find emotionally demanding	Env9
Receiving recognition from others for the work I do	Env10
Feeling that my work is appreciated	Env11
Feeling that my work efforts go unnoticed	Env12
Having control over how I do my work	Env13
Being able to plan/approach my tasks the way I think is best	Env14
Having influence over my job tasks	Env15
Understanding how my work contributes to the aims of this organisation	Env16
What I do at work is worthwhile to this organisation	Env17
I am able to attend the training that I need to perform well in my role/job	Env18
Having a work environment (e.g. space, privacy, noise, comfort, facilities etc.) that is helpful in getting the job done	Env19
Having to work with substandard, malfunctioning or worn out equipment of some kind (e.g. vehicles, uniform, communications technology, computers)	Env20
My immediate line manager or supervisor will make themselves available if I need their support to deal with work-related issues	Env21
Not having all of the information I need to meet my job demands when I need it	Env22

Observed variable name	Item code
Senior managers/management will make themselves available if I need their support to deal with work-related issues	Env23
People not pulling together collectively in this organisation	Env24
Doing a job that I find to be meaningful	Env25
Feeling that my work really makes no difference to the organisation	Env26
I am clear about the purpose of my job	Env27
I view my job as contributing to my personal growth	Env28

Four iterations were carried out; four items were removed initially because they did not reach .3 on communalities after extraction; indicating that low levels of the item's variance were explained by the retained factors. The factor analysis was re-run with the remaining 18 items and a further item was removed because it also did not meet the criteria for communalities after extraction. The third iteration resulted in two items being removed because the difference between item loadings on factors was less than .2, which can indicate cross-loading. The factor analysis revealed a 15 item, four-factor solution which explained 64% of the variance (see Table 4.9). Factor 1 (EnvF1) represents social resources, factor 2 (EnvF2) represents work demands, factor 3 (EnvF3) relates to reward/recognition and factor 4 (EnvF4) represents perceived control. Within factor 1 the variance explained by an item ranged from 36% to 58%, for factor 2 this ranged from 30% to 67%, for factor 3 this ranged from 45% to 64%, and within factor 4 this ranged from 29% to 42%.

Table 4.9: Factor loadings of environmental components

Item code	Factor 1 Loading (EnvF1)	Factor 2 Loading (EnvF2)	Factor 3 Loading (EnvF3)	Factor 4 Loading (EnvF4)
Env1	.76	.02	.06	.12
Env2	.66	.04	.20	.04
Env3	.65	.02	.03	.06
Env4	.62	.10	.07	.07
Env5	.60	.08	.00	.18
Env6	.04	.82	.03	.08
Env7	.04	.74	.01	.13
Env8	.04	.72	.03	.03
Env9	.11	.54	.04	.05
Env10	.02	.05	.80	.03

Item code	Factor 1 Loading (EnvF1)	Factor 2 Loading (EnvF2)	Factor 3 Loading (EnvF3)	Factor 4 Loading (EnvF4)
Env11	.07	.03	.77	.05
Env12	.04	.16	.67	.01
Env13	.02	.04	.02	.65
Env14	.10	.10	.04	.64
Env15	.03	.02	.23	.54
Eigenvalue	4.41	2.59	1.41	1.21

A confirmatory factor analysis was performed using 'R' to test the four-factor solution against the model fit criteria. This was carried out in the same sample of 357 leaders as outlined previously. The data had normal univariate distribution, with no missing data. MLR estimation was used to account for multivariate non-normality. To avoid repetition, the model fit criteria have not been outlined here, but can be found earlier within this chapter (see section 4.4.1). The proposed four-factor model did not meet several of the model fit criteria and therefore could not be considered a 'good fit'. A summary of the fit indices for model 1 can be found in Table 4.10.

A review of the modification indices suggested that the model fit could be improved by removing one item (Env2); the model fit indices for model 2 are shown in Table 4.10. Upon review, it was evident that this represented a much better fit, with improvements seen to the χ^2 value, as well as the TLI, CFI and RMSEA indices.

Table 4.10: Model fit statistics for environmental components					
Model version	χ^2	SRMR	TLI	CFI	RMSEA
1 ($N = 357$)	$\chi^2 (84) = 184.06, p < .001$	.05	.92	.94	.06 (LO 90 = .05, HI 90 = .07)
2 ($N = 357$)	$\chi^2 (71) = 115.33, p < .001$	.05	.96	.97	.05 (LO 90 = .03, HI 90 = .06)

As stated earlier, in an ideal situation this modified model would be cross-validated in a separate sample (Tabachnick & Fidell, 2013). However, sample size restrictions meant that this was not possible. This was not considered to

be a concern given that only a minor change (removal of one item) was made to the model and therefore the final version of this model is shown in Figure 4.3.

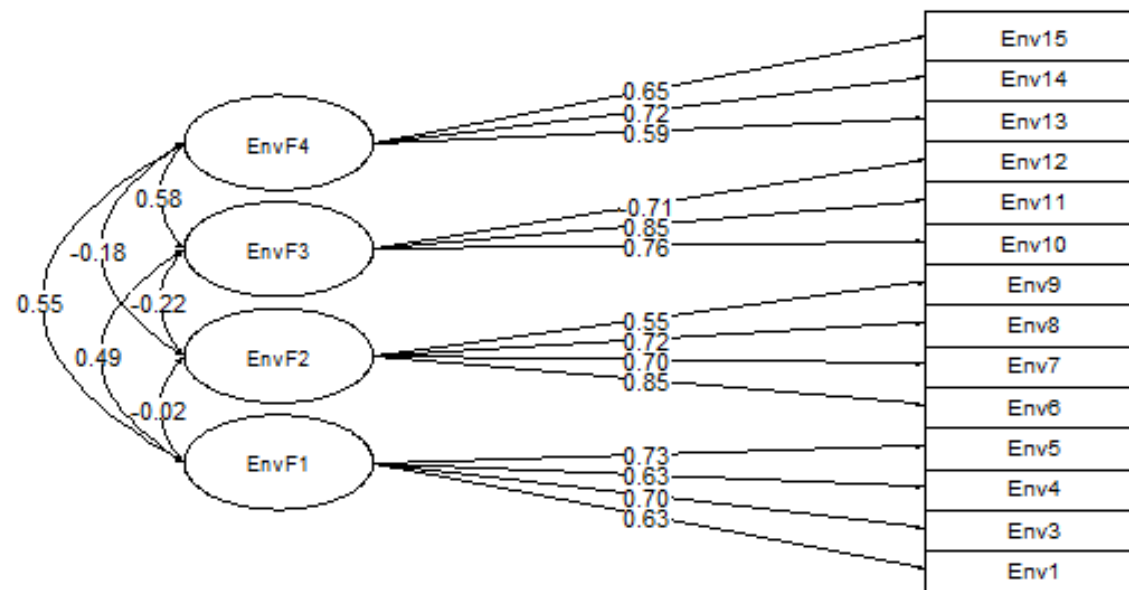


Figure 4.3: Model of environmental components

Notes: EnvF1 = Social resources, EnvF2 = Demands, EnvF3 = Reward/recognition, EnvF4 = Control/autonomy

In summary, this analysis shows that within this sample of leaders ($N = 357$), the scale of social resources (EnvF1) was made up of four items ($\alpha = .76$), the scale measuring demands (EnvF2) was made up of four items ($\alpha = .80$), the scale measuring reward/recognition (EnvF3) was made up of three items ($\alpha = .82$) and the scale measuring control/autonomy (EnvF4) was made up of three items ($\alpha = .70$).

Assessing environmental components from the follower's perspective

In addition to understanding the way in which the leader perceives their work environment, the SMBI assessment also asked their followers to respond to select items which assessed their perceptions of the work environment. The rationale for collecting this data was to allow the interaction between the leader's behaviour and the way in which their followers perceive their environment to be explored. As previously outlined, the decision to use fewer items in the follower version of the assessment was based on the practical time constraints enforced by the participating organisations to minimise the disruption to their work schedules. Three single items were used to assess key aspects of the environment (demands, social resources and control/autonomy):

- a) Experiencing a real sense of community within my team (social resources)
- b) Having too many things to do and not enough time in which to do them (demands)
- c) Having influence over my job tasks (control/autonomy)

The rationale for focusing on these items was largely based on the theoretical models outlined earlier (see section 1.6.1) which explore the interaction between the work environment and employee health, well-being and motivation. Specifically, the JDCS model (Johnson & Hall, 1988) describes how perceptions of control and support in the workplace act as important resources that interact with the demands we face, and impact on our health, well-being and performance. Essentially, our perceptions of the work

environment and its influence on us can be better understood by considering the interaction between these three characteristics.

It should be noted that there are many other possible environmental demands and resources at play within the workplace; however, the practical time limitations meant it was not possible to assess such a broad range of characteristics. Therefore, a theoretically driven decision was made to explore follower perceptions of demands, control and support within this research.

4.4.4 Job satisfaction

Follower job satisfaction was measured using a single item adapted from Cammann, Fichman, Jenkins, & Klesh's (1979) overall job satisfaction scale. The item was chosen based on previous unpublished research by the author within healthcare settings, which found that this item had the strongest factor loading of all items used within the three-item version of this measure. The item was measured on a scale of 1 (strongly disagree) to 7 (strongly agree) and is shown below:

- a) All in all, I am satisfied with my job

Fields (2002) reviewed studies utilising the three-item scale of job satisfaction and found that the coefficient alpha ranged from .67 to .95 (e.g. McFarlin & Rice, 1992; Sanchez & Brock, 1996; Siegall & McDonald, 1995). In addition, Fields (2002) also outlined that the validity of the measure has been well established, with job satisfaction shown to be correlated with positive affectivity and negatively correlated with intentions to leave. However, due to practical time constraints, only one item was used within the SMBI assessment.

4.4.5 Organisational commitment

Follower organisational commitment was assessed using a single item adapted from the measure by Cook and Wall (1980). The item used relates to the 'identification' dimension of organisational commitment and addresses followers' acceptance of the organisational values. This dimension was chosen due to its relevance for the leader-follower relationship; leaders play a

fundamental role in communicating the organisation's values and therefore organisational commitment may be higher for followers who respect their leader. In addition, previous unpublished research by the author within healthcare settings has consistently shown this item to have the strongest factor loading of all nine items that form the full measure. The item was measured on a scale of 1 (strongly disagree) to 7 (strongly agree) and is shown below:

- a) I am quite proud to tell people who it is I work for

The full nine-item scale has shown coefficient alpha values from .71 to .87 (Furnham, Brewin, & O'Kelly, 1994; Oliver, 1990; Sanchez & Brock, 1996). Due to time constraints, the decision was made to use a single item.

An overview of the correlation between all variables used within Study I, along with their mean scores, standard deviations and alpha values are presented in Table 4.11.

Table 4.11: Study I variables correlation matrix

Variables	Mean	SD	α	N	1	2	3	4	5	6	7	8	9
1. Self-efficacy: managing performance (L)	4.88	1.00	.87	357	-								
2. Lack of self-efficacy (L)	3.68	1.08	.71	357	.34**	-							
3. Self-efficacy: positive contribution (L)	4.87	1.25	.70	357	.51**	-.26**	-						
4. Self-efficacy: personal adaptability (F)	5.49	0.61	-	357 ^a	.07	-.09	.06	-					
5. Optimism (F)	5.23	0.66	-	357 ^a	.04	-.10	.02	.58**	-				
6. Inclusive behaviour (L)	4.37	0.45	.81	357	.24**	-.07	.13*	.02	-.02	-			
7. Autocratic behaviour (L)	1.84	0.40	.60	357	.01	.16**	-.01	.01	-.05	-.07	-		
8. Inclusive behaviour (F)	4.55	0.36	.93	357 ^a	.12*	-.02	.09	.26**	.28**	.11*	-.07	-	
9. Autocratic behaviour (F)	1.94	0.30	.78	357 ^a	.09	.01	.07	-.03	-.03	.01	.01	-.29**	-
10. Social resources (L)	2.99	0.61	.76	357	.21**	-.21**	.19**	-.01	.02	.21**	-.05	.22**	-.09
11. Demands (L)	2.76	0.75	.80	357	-.05	.42**	.03	-.08	-.11*	.00	.13*	.03	.06
12. Reward/recognition (L)	2.33	0.75	.82	357	.12*	-.24**	.24**	.07	.12*	.13*	-.15**	.10	-.14*
13. Control/autonomy (L)	2.82	0.64	.70	357	.15**	-.19**	-.19**	-.03	.09	.13*	-.07	.09	-.06
14. Social resources (F)	2.83	0.55	-	357 ^a	.05	-.09	-.09	.28**	.44**	.01	-.01	.28**	.02
15. Demands (F)	2.97	0.58	-	357 ^a	-.07	.07	.07	.00	-.11*	.05	.08	.09	-.08
16. Control/autonomy (F)	2.64	0.49	-	357 ^a	-.08	-.03	-.03	.27**	.39**	.03	-.08	.14**	-.01
17. Job satisfaction (F)	4.95	0.85	-	357 ^a	.05	-.04	-.04	.31**	.62**	-.01	-.03	.23**	-.01
18. Organisational commitment (F)	4.91	0.85	-	357 ^a	.06	.03	.03	.24**	.56**	-.01	.02	.22**	-.00

Notes: * Correlation significant at the .05 level, ** Correlation significant at the .01 level, (L) = Leader assessment, (F) = Follower assessment, ^aaveraged follower scores.

Table 4.11: Study I variables correlation matrix

Variables	Mean	SD	α	N	10	11	12	13	14	15	16	17	18
1. Self-efficacy: managing performance (L)	4.88	1.00	.87	357									
2. Lack of self-efficacy (L)	3.68	1.08	.71	357									
3. Self-efficacy: positive contribution (L)	4.87	1.25	.70	357									
4. Self-efficacy: personal adaptability (F)	5.49	0.61	-	357 ^a									
5. Optimism (F)	5.23	0.66	-	357 ^a									
6. Inclusive behaviour (L)	4.37	0.45	.81	357									
7. Autocratic behaviour (L)	1.84	0.40	.60	357									
8. Inclusive behaviour (F)	4.55	0.36	.93	357 ^a									
9. Autocratic behaviour (F)	1.94	0.30	.78	357 ^a									
10. Social resources (L)	2.99	0.61	.76	357	-								
11. Demands (L)	2.76	0.75	.80	357	.00	-							
12. Reward/recognition (L)	2.33	0.75	.82	357	.38**	-.19**	-						
13. Control/autonomy (L)	2.82	0.64	.70	357	.39**	-.11*	.42**	-					
14. Social resources (F)	2.83	0.55	-	357 ^a	.22**	-.00	.11*	.06	-				
15. Demands (F)	2.97	0.58	-	357 ^a	.11*	.08	-.02	-.03	-.11*	-			
16. Control/autonomy (F)	2.64	0.49	-	357 ^a	.05	-.09	.15**	.23**	.33**	-.04	-		
17. Job satisfaction (F)	4.95	0.85	-	357 ^a	.07	-.11*	.16**	.17**	.43**	-.18**	.54**	-	
18. Organisational commitment (F)	4.91	0.85	-	357 ^a	.06	-.08	.12*	.14**	.32**	-.19*	.47**	.78**	-

Notes: * Correlation significant at the .05 level, ** Correlation significant at the .01 level, (L) = Leader assessment, (F) = Follower assessment, ^aaveraged follower scores.

4.5 Research questions and hypotheses

The aim of the present chapter is to explore a social cognitive approach to understanding leadership. Through exploration of the data collected via the SMBI assessment, this research aims to demonstrate how personal, environmental and behavioural components interact with each other and play an important role in the leader-follower relationship.

It should be noted that within this study, the decision has been made to focus on the impact of positive leadership behaviours, personal and environmental components. This is in line with a positive psychology approach (Seligman, 2002) and the overall research aims. Essentially, the aim of this study is to better understand the process of leadership, with the view that this enhanced understanding may be utilised in a way that can potentially promote more supportive and effective leaders (e.g. through informing training interventions) and encourage positive follower outcomes. In addition, a review of the leadership training literature shows that there is a growing interest in raising awareness of positive leadership behaviours and skills, as opposed to identifying negative or poor leadership practices that need to be addressed. Therefore, the hypotheses below do not explore all possible combinations of the personal, environmental and behavioural components measured, but primarily focus on the positive and beneficial relationships.

Specifically, and based upon the literature review within the first chapter, two general research questions are outlined below, along with the specific hypotheses that will be tested within this chapter.

Research question 1: Does leader behaviour help to explain the relationship between leaders' personal components and their perceptions of the work environment?

- The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of (H1) control/autonomy, (H2) social resources, and (H3) reward and recognition in the work

environment is mediated by the perceived inclusiveness of their behaviour.

- The relationship between leaders' beliefs in their ability to positively contribute to the workplace and leaders' perceptions of (H4) control/autonomy, (H5) social resources, and (H6) reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.

Research question 2: Do perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes?

- The relationship between leader behaviour (inclusive behaviour) and follower (H1) job satisfaction, (H2) organisational commitment, (H3) optimism, and (H4) personal adaptability, is mediated by followers' perceptions of the social resources in their work environment.
- The relationship between leader behaviour (inclusive behaviour) and follower (H5) job satisfaction, (H6) organisational commitment, (H7) optimism, and (H8) personal adaptability, is mediated by followers' perceptions of control/autonomy in their work environment.

4.6 Data screening

Prior to conducting any analysis, it is necessary to consider the structure of the data and the assumptions that must be met to come to a decision about the most relevant statistical tests to perform (Peugh, 2010). One such assumption is the independence of observations which underpins ordinary least squares regression techniques. However, data structures are often hierarchical and adopt a nested data structure; whereby sub-units are grouped within larger units. In this situation, there will be individual error as well as group level random error, which results in some observations between groups being dependent. Subsequently, linear models become inadequate as they tend to assume the same effects across groups. Ignoring the dependency in the data can increase the likelihood of incorrectly concluding that there is a

statistically significant effect when the null hypothesis is true; a type I error (Peugh, 2010). In this situation, it may become necessary to perform a multi-level analysis.

Within this study, the data received through the SMBI assessment was collected from across eight organisations. Therefore, it follows that leaders (i.e. level 1) may be nested within organisations (i.e. level 2) and it might be expected that scores from leaders within an organisation may show greater similarity than scores from leaders in other organisations. Therefore, the decision was made to statistically test for nested data within this sample.

When there are different levels of analysis, the researcher must decide about the scaling or centring of level 1 independent variables. There are different types of centring and the decision should be largely informed by theory as; “there is no statistically correct choice” (Kreft, De Leeuw, & Aiken, 1995, p.17). There is much debate and confusion surrounding the centring of data; however, Hofmann and Gavin (1998) provide a useful framework of the most applicable choice of centring for different paradigms. In a moderational analysis, a group level variable moderates the relationship between two individual level variables. This is applicable to this research; where the organisational context (level 2) might influence the strength of the relationship between factors. In this situation, Hofmann and Gavin (1998) recommend group level centring to separate out the cross-level and between-group interactions. Group mean centring results in reduced collinearity; essentially it helps to produce scores that are uncorrelated with level 2 variables (Bryk & Raudenbush, 1992). It produces a purer estimate of within-group level 1 regression coefficients as it removes the between-group variance. Therefore, the decision was made to use group mean centring for the level 1 variables. The level 2 data (i.e. the organisation) was kept in its raw format.

To test for variation across organisations and the need to perform multi-level analysis, ‘R’ statistical programming language and software environment was utilised, with the ‘nlme’ package installed (Pinheiro, Bates, DebRoy, Sarkar, & R Core Team, 2016). The level 1 group mean centred variables were entered

alongside the raw level 2 organisational data. This process comprised of fitting an intercept-only baseline model and a model that allows intercepts to vary across organisations. The fit of both models was assessed by testing the change in the -2log-likelihood and reporting the chi-square distribution (Field, Miles, & Field, 2012). A significant *p*-value is indicative that the model has significantly improved, whereas a non-significant value suggests that there is little variation across the organisations and that multi-level modelling may not be necessary (Field et al., 2012).

The results of this test for variation across context (organisation) for leaders' scores on the various measures included within the SMBI assessment are shown in Table 4.12. The results indicate that for the data collected from leaders through the SMBI assessment, the intercepts do not vary significantly across the eight organisations and it was deemed unnecessary to carry out multi-level analysis.

Table 4.12: Assessing the need for multi-level modelling in the leader sample

Variable	X ²	df change	p-value
Self-efficacy in managing performance (Personal Factor 1)	3.61	1	1.00
Belief in your ability to positively contribute (Personal Factor 3)	3.61	1	1.00
Inclusive/participative leadership behaviour – average across scenarios (Behavioural Factor 1)	3.64	1	1.00
Social resources (Environmental Factor 1)	3.61	1	1.00
Reward/recognition (Environmental Factor 3)	3.61	1	1.00
Control/autonomy (Environmental Factor 4)	1.85	1	1.00

The same process was carried out for the follower data; the results of which are shown in Table 4.13.

Table 4.13: Assessing the need for multi-level modelling in the follower sample

Variable	χ^2	df change	p-value
Optimism	1.82	1	1.00
Self-efficacy in personal adaptability	1.81	1	1.00
Inclusive/participative leadership behaviour – average across scenarios (Behavioural Factor 1)	3.61	1	1.00
Social resources	1.81	1	1.00
Control/autonomy	1.81	1	1.00
Job satisfaction	1.83	1	1.00
Organisational commitment	1.81	1	1.00

Once again, this indicates that allowing the intercepts to vary across organisations does not significantly improve the fit of the model, and it can be concluded that multi-level modelling is not necessary for this dataset. Having ruled out the need for multi-level modelling, the decision was made to perform mediation analyses using structural equation modelling to test the specific hypotheses for this study.

4.7 Structural Equation Modelling (SEM)

4.7.1 Overview

The decision to use SEM to analyse the data was based on several reasons. Firstly, it portions out measurement error. Other approaches such as regression sum up scores for unobserved concepts (i.e. latent variables); they assume that they are directly observed and that each item contributes equally to the construct when neither of these assumptions are true. SEM incorporates observed (measured) and unobserved (latent) constructs rather than focusing solely on the measured constructs as is often the case with other techniques. In addition, SEM explicitly specifies measurement error, whereas other approaches assume measurement occurs without error. SEM involves fitting one model rather than a series of equations or models and the simultaneous estimation of all parameters can reduce the standard errors, resulting in a statistically superior outcome. Comparatively, standard regression approaches

have been criticised for their low power (MacKinnon, 2008). SEM is very flexible, and the researcher is provided with overall tests of model fit as well as individual parameter estimate tests at the same time. It utilises a range of statistical techniques to allow various and complex relationships to be examined (Ullman, 2013). Finally, SEM is a confirmatory technique; whereby the model is specified a priori, and it is this that distinguishes it from most other more exploratory techniques.

There are often two steps when performing SEM; firstly, confirmatory factor analysis is used to establish whether the constructs are adequately represented by the items used (i.e. the measurement model). The confirmatory factor analyses of the SMBI measures are outlined earlier within this chapter as part of the development and validation of measures. The sample of leaders used for the validation of measures is the same sample of leaders used in the analyses that follow. Therefore, it was not deemed necessary to report this measurement model except where the sample differs (i.e. the follower scores). The second step of SEM is the structural model which tests the relationships between constructs based on theory; it is this structural model that will be developed and tested within this chapter.

Once again, the 'R' software environment for statistical computing was used alongside the following software packages: lavaan, semTools, nlme and semPlot (Epskamp, 2013; Rosseel, 2012; Pinheiro et al., 2016; semTools contributors, 2016). The decision to use this software environment was based on the fact that it is free and open source but has been considered by many to be of commercial quality (Rosseel, 2012). In addition, 'R' was used because of its simplicity and ease of use when performing complex statistical analyses. Unlike programmes like AMOS, 'R' does not require you to draw the model out; instead the model is produced based on the code that is input and is designed in a way that is intuitive to use. 'R' also handles multivariate non-normality; it provides the option to use robust maximum likelihood estimation and produces a robust chi-square statistic which is not easily achieved in other packages. In addition, bootstrapping methods can be used which do not rely

on the assumption of normality. It should be noted that maximum likelihood and covariance-based structural equation modelling (CB-SEM) was used as opposed to variance-based approaches (e.g. partial least squares). Maximum likelihood works by minimising the difference between the observed and estimated covariance matrices, whereas partial least squares aims to maximise the explained variance of the endogenous variables. Hair, Ringle and Sarstedt (2011) argue that the maximum likelihood approach is suited to studies which aim to assess the structure, as opposed to making predictions. They state that; “if the goal is theory testing, theory confirmation, or comparison of alternative theories, select CB-SEM” (p.144). As the primary focus was to explore an integrated theoretical model of leadership, covariance-based approaches were deemed to be the most appropriate technique within this study.

4.7.2 Assumptions

There are still several assumptions that need to be met to carry out SEM. It is a multivariate statistical technique that utilises factor analysis and multiple regression analyses. Subsequently, it assumes univariate normality which is assessed through acceptable values of skew; ± 2 (George & Mallery, 2003) and kurtosis; ± 5 (Kendall & Stuart, 1958). In addition, multivariate normality is required to accurately estimate the chi-square and the standard errors for parameter estimates. Whilst the univariate values for skew and kurtosis were found to be within the acceptable range, Mardia’s statistic showed that the multivariate normality assumption was not met (Mardia, 1974). Therefore, the bootstrapping approach was used as this makes no assumptions about the sampling distribution (Hayes, 2009).

Another assumption is that the data should be free of outliers. This was tested using Mahalanobis distance and no outliers were found. High leverage and influential points were assessed by examining leverage and Cook’s distance values and no problematic data was found. Multicollinearity between variables was also assessed; Variance Inflation Factor (VIF) scores and tolerance values were shown to fall within the acceptable limits (< 10 and > 0.1 respectively),

meaning that there were no concerns about the variables correlating too highly (Pallant, 2007). A linear relationship between endogenous and exogenous variables is assumed and this was tested using the curve estimation function which showed that relationships were sufficiently linear. A general rule of thumb is that SEM should be used on a minimum sample size of 200 (Kline, 2015), although the required sample may increase with greater model complexity. The sample used here substantially exceeded this value ($N = 357$), and no missing data was found.

In addition, it is assumed that interval data is used. It should be noted that the data was collected using Likert-type scales and therefore should technically be treated as ordinal data rather than interval or continuous data. However, as previously outlined as part of the development of the measures, there is a growing body of evidence to show that where scales use five or more points, then statistically there is little difference between continuous data and Likert-type data (Rhemtulla et al., 2012). Therefore, this was not deemed to be problematic for the analysis carried out within this chapter.

4.7.3 Mediation analysis

To explore the research questions and test the specific hypotheses of this study, mediation analysis was carried out using SEM. Mediation analyses look to explain the mechanisms that underlie the relationship between two variables. It does not assume a direct causal relationship but proposes that an additional mediator variable is influenced by the independent variable, which in turn influences the dependent variable. Essentially, a mediator helps to explain the impact of one variable on another (Cohen, Cohen, West, & Aiken, 2003). There have been numerous terms used to refer to mediation (e.g. indirect effects or intervening variables) and several approaches have been used to test for a mediation effect (Wood, Goodman, Beckmann, & Cook, 2008). Traditionally, mediation followed the causal steps approach outlined by Baron and Kenny (1986). Using this approach, X and Y must be correlated (path c ; the total effect), X and M must be correlated (path a) and X and M must

predict Y (i.e. path b ; controlling for the causal variable X to establish the effect of the mediator on the outcome). Finally, to establish if the X-Y relationship is mediated by M, it is necessary to explore the relationship between X and Y when M remains unaltered (path c' ; the direct effect). Assuming all other steps have been met; if the effect of X on Y is zero after controlling for M, then it can be concluded that complete mediation has occurred. Otherwise a decreased effect shows partial mediation has occurred (see Figure 4.4).

However, MacKinnon, Lockwood, Hoffman, West and Sheets (2002) argue that this approach has several limitations, including low power for detecting small and medium mediation effects, especially in smaller sample sizes. Hayes (2009) argues and that it is possible for indirect effects to be present without evidence of an association between X and Y. In this scenario, the focus is on the indirect effect (ab), rather than the direct or total effect (Zhao, Lynch, & Chen, 2010). As an example, it is possible that the sample does not provide sufficient power to detect this relationship, or unmodelled moderators may impact on the total effect. Essentially, it is the indirect effect that is the relevant parameter to test and it should be noted that the bootstrapping approach used within the analyses that follow does not require a relationship between X and Y. The approach used within this study will be discussed next.

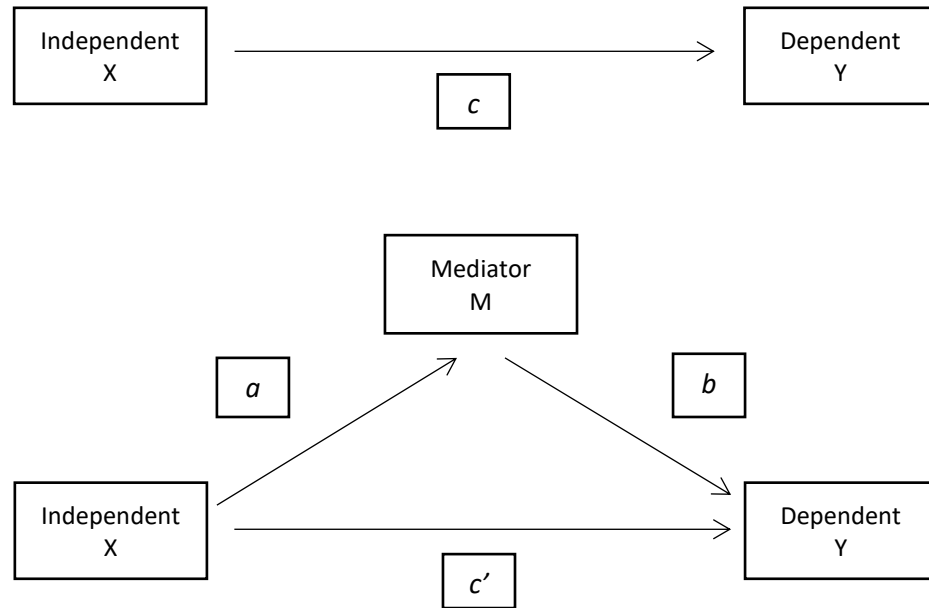


Figure 4.4: A simple model of mediation

Mediation using SEM has several advantages over the traditional causal steps approach proposed by Baron and Kenny (1986). When separate regression analyses are conducted, as is the case using the causal steps approach, there is an assumption that the mediator (M) is reliably measured. However, measurement error will contribute to biased estimates in the mediator and it is only through using SEM that this measurement error can be specified. SEM is also recommended when using latent variables such as those measured within the SMBI assessment. Hopwood (2007) argued that the inclusion of latent variables within SEM helps to estimate the desired effect more reliably. SEM can be used to obtain both (*a*) and (*b*) simultaneously (see Figure 4.4) whilst correcting for effects of measurement error. It can also test more complex models where X, M and Y are all latent variables or where there are multiple mediators and dependent variables (Mackinnon, 2000). Following a comparative review of traditional mediation analysis compared to SEM, Iacobucci, Saldanha and Deng (2007) concluded that structural equations are superior and should be used wherever possible.

Another criticism is that the causal steps approach does not quantify the intervening effect (Hayes, 2009). In other words, there is no testing for the

significance of the mediation effect and instead mediation is inferred (Wood et al., 2008). New approaches have attempted to overcome this and quantify indirect effects; perhaps the most widely used is the Sobel test (Sobel, 1982) which is the default option within many SEM programmes. Using this approach, the indirect effect of a mediation analysis is calculated by multiplying two regression coefficients, which is then tested for its significance. This test does not necessarily replace the causal steps approach and in many cases, it has been used to supplement it (Hayes, 2009). However, the Sobel test assumes the normality of the sampling distribution of the indirect effect, which is often not the case. In addition, it is conservative when there are small effects and sample sizes (Bollen & Stine, 1990). Therefore, researchers have sought other approaches, with many researchers now recommending the use of bootstrapping (Hayes, 2009). This approach will be discussed next.

4.7.4 Bootstrapping

Bootstrapping is a resampling technique that makes fewer assumptions about the distribution of data compared to other approaches and allows a Confidence Interval (CI) to be constructed for the indirect effect of a mediation model (Preacher & Hayes, 2008). The CI provides the range of plausible values for the parameter estimate (in this case, the indirect effect ab) that you would expect to find in your population. Analysis is usually carried out on a sample from the population and the beta estimates that are obtained from this sample are supposed to represent the real population. Bootstrapping applies a similar logic, where it takes a sample from the sample (a bootstrap sample) and estimates the beta values based on this bootstrap sample. This sample and estimate process is repeated many times to give you bootstrap estimates along with CIs for these estimates. Hayes (2009) recommends that this process is repeated at least 5,000 times. In the case of mediation analysis, the indirect effect is computed from each sample and the distribution of the sample can be generated. Classic CIs assume that the distribution of the coefficient estimator is symmetric; meaning that the upper and lower bounds are equal distance

from the coefficient estimates, which is often not the case. Instead, the bootstrapped CI can capture asymmetries in the distribution of the estimator.

The bias-corrected bootstrap of the parameter estimates has been identified as the most powerful test of a mediated effect compared to both the Sobel test (1982) and Baron and Kenny's (1986) causal steps approach, and for this reason it is utilised within this study. The CIs produced also aid interpretation of the effect; if the range of values cross zero (e.g. the lower bound CI is negative and the upper bound CI is positive or vice versa), then the researcher cannot be sure about the effect observed in the study.

In addition to the bias-corrected bootstrap, the Bollen-Stine bootstrap was used for fitting the model. This bootstrapping approach rescales the observed data matrix, and therefore bases the p -value on a null hypothesis (of perfect fit) that is true. Essentially the Bollen-Stine bootstrap transforms the data and provides a more accurate estimation of the p -values. Conducting bootstrapping without this calculation would mean that for the chi-squared test statistic, the mean and variance of the bootstrap distribution would follow the observed data model fit. Therefore, the resulting bootstrap distribution would not be a valid distribution for testing the null hypothesis of a perfect model fit.

4.7.5 Effect size

It has been widely recognised by researchers that statistical significance alone does not provide enough information about the effect. The effect size also needs to be considered; especially the indirect interaction effect of a mediation analysis as this does not fit classical effect size measures. The importance of effect size is not a new observation; the causal steps approach to mediation put forward by Baron and Kenny (1986) recommended that the size of the regression weights should be considered in the interpretation of mediation analysis in addition to the statistical significance. Despite this early recommendation, this is rarely put into practice. Where effect sizes are reported, there are often limitations to the way in which they are measured

(Preacher & Kelley, 2011). Traditionally, mediation effect sizes have been reported in terms of whether there is complete or partial mediation (Mathieu & Taylor, 2006). However, this does not provide any quantifiable measure of effect and CIs cannot be computed to get a clearer understanding of the population value. In addition, many measures of effect size are influenced by the sample size. To overcome some of these limitations, Preacher and Kelley (2011) recommend that the kappa-squared (K^2) effect size is used to measure the indirect effect of a mediation analysis. K^2 is defined as "*the proportion of the maximum possible indirect effect that could have occurred, had the constituent effects been as large as it potentially could have been*" (Preacher & Kelley, 2011, p.106). Essentially, it is a measure of magnitude of the effect compared to what could have possibly been attained. It is independent of sample size and is standardised so that it produces a value from 0 to 1; where 0 indicates no linear indirect effect and 1 implies the maximum attainable effect. The benefits of using K^2 as a measure of effect size is increasingly being recognised (Preacher & Kelley, 2011) and hence it has been utilised within the analyses that follow. However, it should be noted that no measure of effect size is perfect, and the research context should play a role in interpreting effects as it is plausible for a seemingly large effect size to have little importance or practical significance attached to it.

4.7.6 Sample size

A sample size calculator was utilised (Soper, 2016) to assess the appropriate sample size for the models used in the SEM mediation analyses that follow. To detect a medium-sized effect and achieve a power of .8, the recommended sample size did not exceed the study sample ($N = 357$) and so SEM could be carried out.

4.8 Results

To explore a social cognitive approach to leadership and to test the interaction between the personal, environmental and behavioural components

of leaders and their followers, the proposed relationships were empirically tested. Mediation effects are calculated using SEM for this purpose.

4.8.1 Research question 1 (leader model)

Within this section, the following research question and specific hypotheses outlined below are tested and discussed:

Research question 1: Does leader behaviour help to explain the relationship between leaders' personal components and their perceptions of the work environment?

- The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of (H1) control/autonomy, (H2) social resources, and (H3) reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.
- The relationship between leaders' beliefs in their ability to positively contribute to the workplace and leaders' perceptions of (H4) control/autonomy, (H5) social resources, and (H6) reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.

The correlation between variables is shown in Table 4.14. This revealed significant correlations between all variables, including the proposed mediating variables and exogenous variables, as well as relationships between the mediating variables and the endogenous variables. Although this is not a necessary condition using the bootstrapping approach (Zhao et al., 2010), it does provide a good basis for mediation analysis.

Table 4.14: Correlation analysis

Variables	Leader self- efficacy: managing performance	Leader self- efficacy: contribution	Leader behaviour (inclusive)	Leader autonomy/ control	Leader social resources	Leader reward/ recognition
Leader self-efficacy: managing performance	1.00					
Leader self-efficacy: contribution	.51**	1.00				
Leader behaviour (inclusive)	.24**	.13*	1.00			
Leader autonomy/ control	.15**	.26**	.13*	1.00		
Leader social resources	.21*	.19**	.21**	.39**	1.00	
Leader reward/ recognition	.12*	.24**	.13*	.42**	.38**	1.00

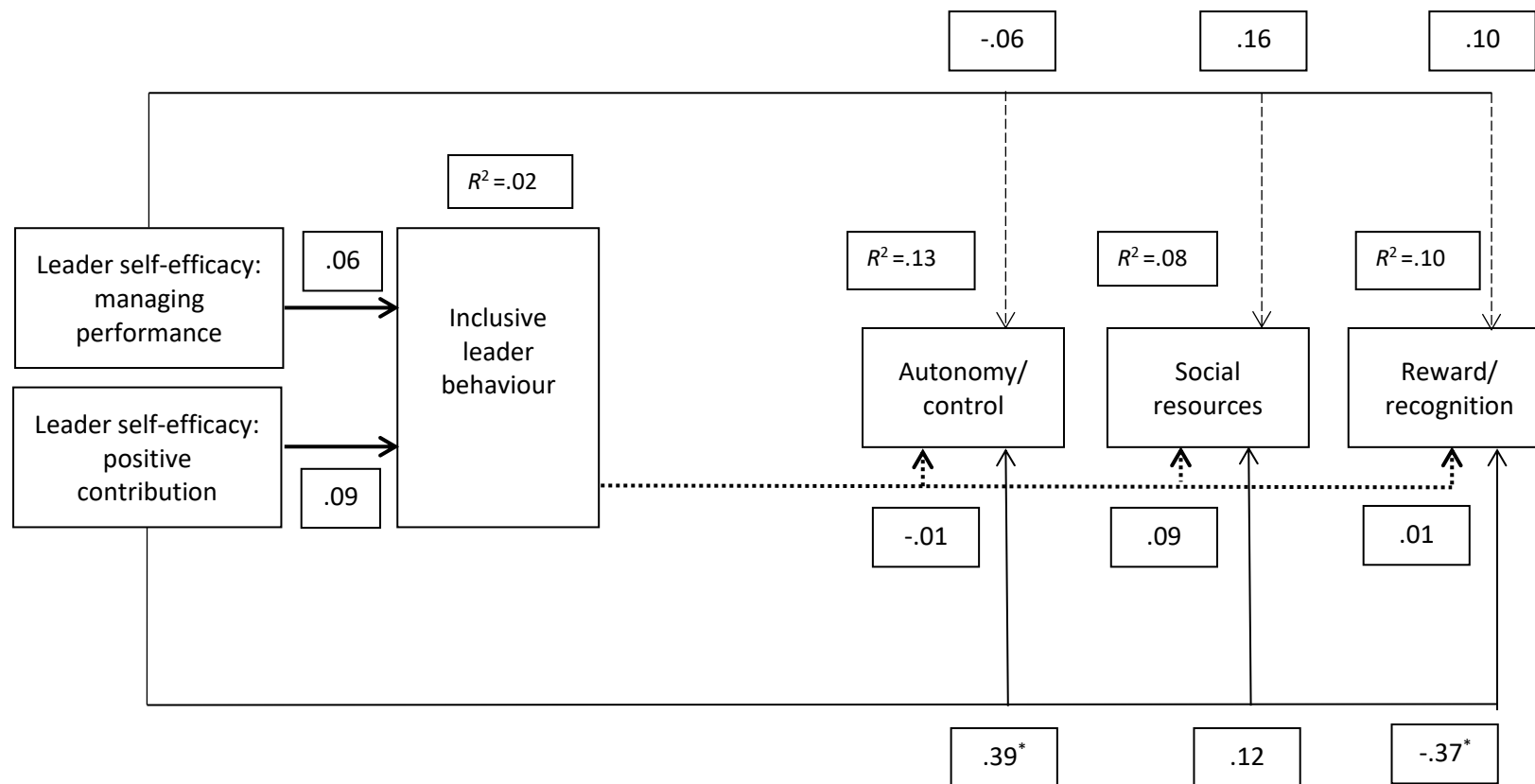
Note: *N* = 357 * Correlation significant at the .05 level ** Correlation significant at the .01 level

Within this model, inclusive leader behaviour was assessed using followers' ratings. However, the earlier development of this measure was based on the sample of leaders, and so it was necessary to review the item loadings and reliability of this scale within the follower sample. The reliability of the average follower scores for the scale of inclusive leader behaviour across the three assessed scenarios was high ($\alpha = .95$) and the item loadings were shown to be acceptable; .84 (BF1), .88 (BF2), .92 (BF3), .84 (BF4), .90 (BF6) and .87 (BF7). This scale is therefore utilised within research question 1 and 2 of this study.

The fit of the model was assessed using the Bollen-Stine bootstrapping method ($B = 5000$). The model fit statistics are reported in Table 4.15 and show the consistency of the hypothesised mediational model to the data (see section 4.4.1 for an overview of model fit indices). It is evident that aside from the Bollen-Stine chi-square statistic which would ideally be non-significant, the model generally exhibited a good fit to the data. The standardised coefficients for this model are presented in Figure 4.5.

Table 4.15: Model fit statistics for the mediation model (research question 1)

Mediational model	χ^2	SRMR	TLI	CFI	RMSEA
Research question 1	$\chi^2 (215) = 332.26$ $p = .02$	.04	.97	.97	.04 (LO 90 = .03, HI 90 = .05)



* $p < .05$, Key: $\longrightarrow$ Direct effect, $\longrightarrow$ X on M (a), $\cdots\cdots\longrightarrow$ M on Y (b)

Figure 4.5: Structural model (research question 1)

To test for mediation, the bootstrapped bias-corrected CIs for the indirect effects were estimated. Using this approach, a significant mediation effect is found if the values do not cross zero ($p < .05$).

Table 4.16 presents the standardised coefficients for the direct effects, the bias-corrected 95% CIs for the indirect effects and the total effects.

Table 4.16: Mediation analysis (research question 1)

Predictor	Effect	Control/ autonomy	Social resources	Reward/ recognition
Leader self- efficacy: managing performance	Direct effect	-.06	.16	.10
	Indirect effect – leader inclusive behaviour	(95% CI: -.01, .01)	(95% CI: -.00, .02)	(95% CI: -.01, .02)
	Total effect	-.06	.16	.10
Leader self- efficacy: contribution to the workplace	Direct effect	.39*	.12	-.37*
	Indirect effect – leader inclusive behaviour	(95% CI: -.01, .01)	(95% CI: -.00, .03)	(95% CI: -.01, .02)
	Total effect	.39**	.13	-.37**

* $p < .05$ ** $p < .01$

As shown in Table 4.16, the values for the indirect effect of leader behaviour were non-significant and the bias-corrected 95% CI included zero for both predictors within the model (leaders' self-efficacy in managing performance and leaders' belief in their ability to contribute positively to the workplace). This indicates that inclusive leader behaviour does not have a mediational role within this model.

4.8.2 Research question 2 (leader-follower model)

Within this section, the following research question and specific hypotheses outlined below are tested and discussed:

Research question 2: Do perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes?

- The relationship between leader behaviour (inclusive behaviour) and follower (H1) job satisfaction, (H2) organisational commitment, (H3) optimism, and (H4) personal adaptability, is mediated by followers' perceptions of the social resources in their work environment.
- The relationship between leader behaviour (inclusive behaviour) and follower (H5) job satisfaction, (H6) organisational commitment, (H7) optimism, and (H8) personal adaptability, is mediated by followers' perceptions of control/autonomy in their work environment.

The correlation between variables is shown in Table 4.17. There were significant correlations between all variables, including correlations between the mediator and exogenous and endogenous variables.

Table 4.17: Correlation analysis

Variables	Leader (inclusive) behaviour	Follower job satisfaction	Follower organisational commitment	Follower optimism	Follower personal adaptability	Follower social resources	Follower autonomy/control
Leader (inclusive) behaviour	1.00						
Follower job satisfaction	.23**	1.00					
Follower organisational commitment	.22**	.78**	1.00				
Follower optimism	.28**	.62**	.56**	1.00			
Follower personal adaptability	.26**	.31**	.24**	.58**	1.00		
Follower social resources	.26**	.47**	.45**	.37**	.20**	1.00	
Follower autonomy/control	.14**	.54**	.47**	.39**	.27**	.26**	1.00

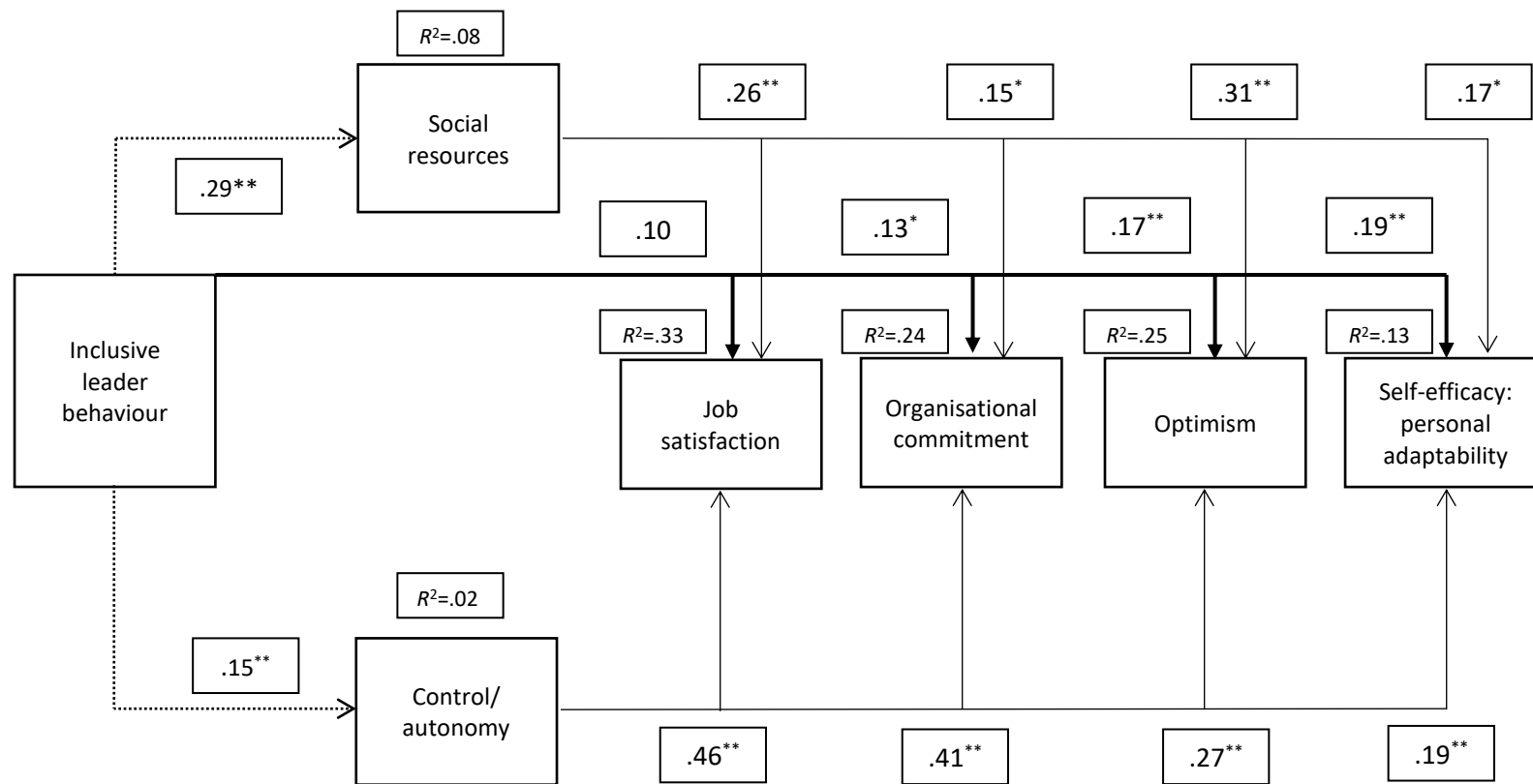
Note: $N = 357$ ** Correlation significant at the .01 level

The fit of the model was assessed using the Bollen-Stine bootstrapping method. The model fit statistics are reported below in Table 4.18.

Table 4.18: Model fit statistics for the mediation model (research question 2)

Mediational model	χ^2	SRMR	TLI	CFI	RMSEA
Research question 2	$\chi^2 (40) = 151.58$ $p = .003$	.05	.94	.96	.09 (LO 90 = .07, HI 90 = .10)

The model fit statistics were reviewed to see the consistency of the hypothesised mediational model to the data (see section 4.4.1 for an overview of model fit indices). It is evident that aside from the Bollen-Stine chi-square statistic which would ideally be non-significant, the model generally exhibited a good fit to the data. Although high, the RMSEA value still falls within the acceptable range and indicates a mediocre fit (MacCallum et al., 1996). In addition, it is recognised that the RMSEA value is prone to being artificially inflated within smaller samples (Kenny, Kaniskan, & McCoach, 2015), and therefore it was not deemed appropriate to judge the model as being a poor fit based on the slightly elevated value for this model fit statistic. The TLI statistic fell slightly below the recommended value of .95, but this difference was minimal, and after inspecting the modification fit indices, it was not deemed necessary to make any changes to the model. The standardised coefficients for this model are presented in Figure 4.6.



* $p < .05$, ** $p < .01$, Key: $\longrightarrow$ Direct effect, $\cdots\longrightarrow$ X on M (a), $\longrightarrow$ M on Y (b)

Figure 4.6: Structural model (research question 2)

To test for mediation, the bootstrapped bias-corrected CIs for the indirect effects were estimated. Table 4.19 presents the standardised coefficients for the direct effects, the bias corrected 95% confidence intervals for the indirect effects and the total effects.

Table 4.19: Mediation analysis (research question 2)

Effect	Job satisfaction	Organisational commitment	Optimism	Personal adaptability
Direct effect – leader inclusive behaviour	.10	.13*	.17**	.19**
Indirect effect – social resources	(95% CI: .11, .35) K ² = .09	(95% CI: .03, .24) K ² = .05	(95% CI: .10, .33) K ² = .11	(95% CI: .03, .20) K ² = .05
Indirect effect – autonomy/control	(95% CI: .04, .36) K ² = .08	(95% CI: .38, .33) K ² = .07	(95% CI: .02, .18) K ² = .05	(95% CI: .01, .15)
Total effect – social resources	.18**	.17**	.26**	.24**
Total effect – autonomy/control	.17**	.19**	.21**	.22**

* $p < .05$, ** $p < .01$

K² = Kappa-squared effect size measure of the indirect effect: .01 = small, .09 = medium and .25 = large (Preacher & Kelley, 2011).

Table 4.19 shows that the indirect effects of both social resources and autonomy/control are significant; the CIs do not include zero. This confirms a mediational effect of the perceived social resources and autonomy/control that followers have in their work environment. The findings suggest that followers' perceptions of these aspects of their work environment can explain the relationship between leader behaviour (how inclusive the leader's behaviour is perceived to be) and followers' attitudes towards work (job satisfaction and organisational commitment), as well as explaining the relationship between leader behaviour and followers' personal resources (optimism and personal adaptability). The K² effect sizes reveal small to medium effect sizes for the indirect effects. It should be noted that the mediating role of perceived control/autonomy on the relationship between leader behaviour

and follower self-efficacy in relation to personal adaptability was not significant ($p = .08$, 95% CI: 0.01 - 0.15).

4.9 Summary of findings

Overall, the results of this study show:

- No support for research question 1: Inclusive leader behaviour was not found to have a mediational role between leaders' personal components (self-efficacy in relation to managing performance and ability to make a positive contribution to the workplace) and the way in which they perceive the environment (their perceptions of control/autonomy, reward/recognition and social resources).
- Support for research question 2: Follower perceptions of the work environment (their perceptions of the social resources and control/autonomy) were found to have a mediational effect in the relationship between leader behaviour (how inclusive leaders' behaviour was perceived to be) and follower outcomes (job satisfaction, organisational commitment, optimism and personal adaptability). The only non-significant result was for hypothesis 8; perceptions of control/autonomy did not have a mediational role in the relationship between leader behaviour (inclusiveness) and follower self-efficacy beliefs in terms of their personal adaptability.

Each of these findings will be discussed briefly in the section that follows.

4.10 Discussion

The objective of this chapter has been to explore a social cognitive perspective of leadership. Specifically, it looks to understand how personal components interact with environmental and behavioural components within leaders as well as exploring this interaction in the relationship between leaders and their followers. Two key research questions were explored, with fourteen hypotheses examined. Table 4.20 summarises the hypotheses and findings.

Table 4.20: Results

Research question	Hypothesis	Result
1	H1: The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of control/autonomy in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
1	H2: The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of social resources in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
1	H3: The relationship between leaders' self-efficacy for managing performance and leaders' perceptions of reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
1	H4: The relationship between leaders' beliefs in their ability to contribute positively to the workplace and leaders' perceptions of control/autonomy in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
1	H5: The relationship between leaders' beliefs in their ability to contribute positively to the workplace and leaders' perceptions of social resources in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
1	H6: The relationship between leaders' beliefs in their ability to contribute positively to the workplace and leaders' perceptions of reward and recognition in the work environment is mediated by the perceived inclusiveness of their behaviour.	Not supported
2	H1: The relationship between leader behaviour (inclusive behaviour) and follower job satisfaction is mediated by followers' perceptions of the social resources in their work environment.	Supported
2	H2: The relationship between leader behaviour (inclusive behaviour) and follower organisational commitment is mediated by followers' perceptions of the social resources in their work environment.	Supported
2	H3: The relationship between leader behaviour (inclusive behaviour) and follower optimism is mediated by followers' perceptions of the social resources in their work environment.	Supported

Research question	Hypothesis	Result
2	H4: The relationship between leader behaviour (inclusive behaviour) and follower personal adaptability is mediated by followers' perceptions of the social resources in their work environment.	Supported
2	H5: The relationship between leader behaviour (inclusive behaviour) and follower job satisfaction is mediated by followers' perceptions of control/autonomy in their work environment.	Supported
2	H6: The relationship between leader behaviour (inclusive behaviour) and follower organisational commitment is mediated by followers' perceptions of control/autonomy in their work environment.	Supported
2	H7: The relationship between leader behaviour (inclusive behaviour) and follower optimism is mediated by followers' perceptions of control/autonomy in their work environment.	Supported
2	H8: The relationship between leader behaviour (inclusive behaviour) and follower personal adaptability is mediated by followers' perceptions of control/autonomy in their work environment.	Not supported

The findings showed support for seven of the eight hypotheses tested as part of research question 2, which explored whether perceptions of the work environment help to explain the relationship between leader behaviour and follower outcomes. Specifically, SEM mediation analyses revealed that inclusive leadership behaviour had an impact on follower attitudes towards work (job satisfaction and organisational commitment), and that this relationship was partially mediated by followers' perceptions of autonomy/control and social resources within their work environment. Small to medium effect sizes were found. The findings indicate that leaders who display more inclusive behaviours can help to create an environment for their followers that is characterised by high levels of autonomy/control and a strong sense of social support and community. This, in turn, can lead to followers experiencing more positive attitudes towards work. This is in line with existing research which has proposed a relationship between leader behaviour and

follower perceptions of the work environment (Gardner et al., 2005; Nielsen et al., 2008; Woolley et al., 2011) and a relationship between leader behaviour and follower attitudes (Giallonardo et al., 2010; LeRoy et al., 2012; Tepper, 2000; Walumbwa et al., 2004). Follower attitudes are an important outcome as they can provide an indirect measure of subsequent performance (Judge et al., 2001). Therefore, the findings from this research can have organisational implications, as well as providing an insight into how followers' well-being can be enhanced.

This research has arguably extended existing studies by demonstrating the mediating role of the perceived environment in the relationship between leader behaviour and follower outcomes. The results of the mediation analysis suggest that the impact of leader behaviour on follower outcomes may be partially explained by the way leaders help to shape the perceived environment in which their followers work. This supports and extends work on perceived organisational support (e.g. Eisenberger et al., 2002) and the idea that the views and actions of the leader represent the organisation (Coyle-Shapiro & Kessler, 2000; Shanock & Eisenberger, 2006). The findings suggest that through their behaviour, leaders can influence the way in which their followers perceive their place of work, and how they feel about their job and organisation. This brings to the fore the far-reaching impact of leadership which extends beyond individual level outcomes to the wider organisation. The findings also provide some initial evidence to support the view that through their behaviour, leaders can influence the perceptions of their followers. This relationship was identified by Amabile et al. (2004) as something that is often assumed to exist, but there has been a lack of empirical research testing this.

In addition, the findings presented within this research suggest that the work environment can also help to explain the relationship between leader behaviour and followers' personal components. Existing literature has identified that positive leadership may promote more positive states in their followers (e.g. Youssef-Morgan & Luthans, 2013). This may be explained by the leader's ability to build positive emotions in their followers, and develop their

personal and psychological resources (Fredrickson, 1998, 2003, 2004). However, this study extends the existing literature by showing that the relationship between inclusive leader behaviour and followers' optimism and belief in their ability to adapt their approach are partially mediated by followers' perceptions of the social resources within their environment. In addition, perceptions of control/autonomy in the work environment was shown to mediate the relationship between leader behaviour and follower optimism. Followers' personal components, or resources, are an important outcome, yet have been under-researched within the leadership literature; particularly in relation to the work conditions that influence these positive states (Hackman, 2009). Research question 2 makes an important contribution to the literature by providing support for the positive impact that leaders' behaviour can have on followers' optimism and self-efficacy beliefs through the environment that they help to create. Evidently, leaders are not only able to influence the way their followers think about and construct the environment around them, but they can also influence the way in which followers think about their own abilities and psychological states. This has important implications for enabling followers to develop and perform optimally (Avey et al., 2011; Stajkovic & Luthans, 1997).

Combined, the findings of research question 2 provide some initial support for a social cognitive perspective of leadership (Bandura, 1977a, 1986). The mediation analyses provide an insight into the relationship between behavioural, environmental and personal components and the social dynamics between leaders and their followers. Essentially, it highlights that through their behaviour, leaders can influence how their followers shape or construct their work environment, which in turn can impact on followers' attitudes towards their workplace, and their perceptions of their own personal components.

The findings also have implications for the development of interventions; it could be argued that interventions that promote more inclusive and supportive leader behaviours may help to address issues with the perceived organisational culture or environment.

However, there was no support for research question 1. Leader behaviour (the inclusiveness of their behaviour) did not have a mediational role in the relationship between leaders' personal components (self-efficacy in relation to managing performance and belief in their ability to positively contribute to the workplace) and their perceptions of the work environment (perceived control/autonomy, social resources and reward and recognition within the work environment). This finding suggests that the relationship amongst personal, environmental and behavioural components is clearer when looking at this in relation to the leader-follower relationship compared to looking at three components in the leader alone. This supports the view of other researchers, who argue that to understand leadership, it is necessary to explore the leader-follower relationship (Kelloway & Barling, 2010; Yukl, 2010). In other words, it is the social dynamics that become important. In addition, Bandura (1989) points out that some components may have a stronger influence than others, and similarly, the influence of each of the components may not happen at the same time (Wood & Bandura, 1989). Therefore, further research is needed to understand how the influence of each of the components may vary and interact in different ways over time.

Within the overall model explored as part of research question 1, the regression analyses suggest that leaders' belief in their ability to make a positive contribution to the workplace predicts perceptions of control and autonomy in the work environment. However, interestingly this was found to negatively predict their perceptions of reward and recognition within the work environment. This may be understood in relation to the norm of reciprocity (Gouldner, 1960) and the idea that through making greater contributions to the workplace, there is an expectation of greater reward and recognition which may not be satisfied. However, further research is needed to explore this, and to consider other interactions between leaders' personal, environmental and behavioural components.

Overall, the findings presented in this chapter have provided some initial support for a social cognitive approach to leadership and the leader-follower

relationship. The results highlight that the relationship between leadership and follower outcomes may not necessarily be direct, but instead it can be better explained through the influence leaders have on the way their followers perceive their work environment.

In addition, the findings highlight the impact that leaders can have on followers' work attitudes and personal components and demonstrates why leadership interventions are an important area of research. The implications of these findings and areas for future research will be discussed further in chapter six, along with a discussion of some of the potential limitations of this research.

The chapter that follows will evaluate the impact of a scenario-based training intervention which promotes a social cognitive approach to leadership within healthcare settings. The study and specific research questions will be outlined, and the findings discussed.

CHAPTER FIVE: STUDY II

5 Overview

In this chapter, the second study within this research is outlined, including the design, sample, procedure and measures used. The development of measures is outlined, and the reliability and validity of the measures is assessed. The research questions and results are summarised and discussed.

5.1 Evaluating a leadership training intervention

5.1.1 Study Overview

In this study, quantitative measures were used to evaluate the impact of a scenario-based leadership training intervention which promotes a social cognitive approach to understanding leadership. Specifically, the intervention aims to promote positive and authentic leadership behaviours, whilst considering the environmental and personal components that contribute to effective leadership. As part of this study, the predictors of the transfer of leader self-efficacy were also explored. Questionnaires were distributed at three different time points; immediately before training, immediately after training and 6 months post-training. The training intervention itself utilises video-based scenarios to explore the personal, environmental and behavioural components of leadership performance. The content of the training intervention is discussed in more detail in section 5.1.4.

5.1.2 Design

The evaluation of the training intervention used a pre-course, post-course and follow-up design. Participants of the 'Supportive Leadership and Management Behaviour' Scenario-Based Training (SBT) intervention were asked to complete questionnaires prior to attending the training session, at the end of the training session and 6 months after completion of the training course (see Figure 5.1).

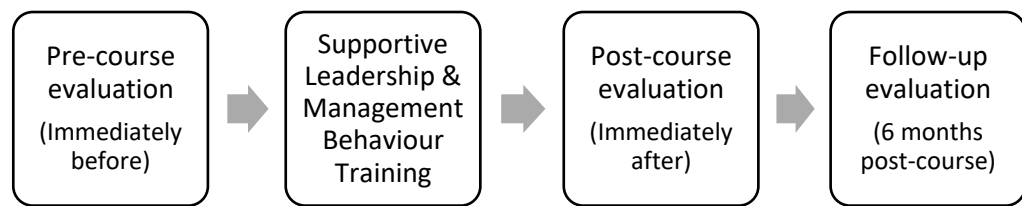


Figure 5.1: Evaluation design

5.1.3 Sample

The participants of the training intervention were first line management level from across 15 healthcare organisations. All participants had voluntarily put themselves forward to attend the training intervention; participation was entirely voluntary, and no financial or other incentive was used. All participants were adults who were actively working in a management or leadership role within their organisation; therefore, participants of this study were thought to be in good health and were not considered to be a vulnerable population.

Participants and their demographic characteristics are summarised in Table 5.1. Overall, the matched pre-course/post-course sample comprised 1283 participants which was made up of 899 females (70.1%) and 377 males (29.4%). A small proportion (0.5%) did not disclose their gender. Participant ages ranged from 20 years to 70 years ($M = 44$; $SD = 9.57$), with a small number of participants (3%) not disclosing their age.

The final matched pre-course/post-course/follow-up sample comprised 212 participants; 176 females (83%) and 36 males (17%). The age of participants ranged from 23 years to 64 years ($M = 47$; $SD = 7.96$). Participants were predominantly 'band 7' within the NHS pay banding scale. It should be noted that a larger number of managers responded to the follow-up survey; however, not all surveys could be matched over time. Therefore, the final

sample ($N = 212$) represented 17% of the original cohort of leaders who had gone through the training intervention.

Table 5.1: Participant demographics

Participant Category	Number	Average Age (<i>SD</i>)	Gender
Matched pre/post	1283	44 (9.57)	899 females, 377 males (7 undisclosed)
Matched pre/post/follow-up	212	47 (7.96)	176 females, 36 males

5.1.4 The training intervention

The ‘Supportive Leadership and Management Behaviour’ SBT intervention is an evidence-based programme designed by an applied psychology consultancy (Zeal Solutions Ltd.). The training intervention is offered to healthcare organisations with the aim of promoting the continuous development of their people. The intervention specifically targets leader behaviours and explores the notion of how supportive these behaviours are, and how perceptions of support can have positive or negative impacts on the health, well-being, motivation and performance of employees. The training intervention sets out to offer a more inclusive approach towards understanding leadership at work. In short, the intervention starts out from the basis of understanding human behaviour through a social cognitive approach and then extends this understanding towards leadership and situates this behaviour within an organisational context. Within the training, the context is discussed as being not only about the physical world in which we live, but also the social world in which we operate.

As highlighted within the earlier review of the literature, current leadership theories tend to focus on one aspect of leadership (e.g. personal characteristics, traits, behaviour or the context). However, and by doing so, they have neglected to consider the interplay between these various components and how these are influenced by and will influence those who are led or managed. With this limitation in mind, the SBT intervention is built upon

the principle that human performance in any given situation is the culmination of three components that interact with and influence each other; personal, environmental and behavioural components. Using this social cognitive perspective, the training intervention aims to highlight that no one component can be isolated from the other, and knowledge of all three is crucial to understanding leader behaviour, learning and performance. For example, a leader might have all the skills that they need to be an effective leader, but their environment might be restrictive, or they may personally lack confidence in their ability to perform a task. Therefore, the training intervention necessarily explores the leader's behaviour, but also their personal components and the environmental context in which they operate. In line with study 1, the training encourages participants to consider and reflect upon theory relating to authentic leadership behaviours, psychological capital as well as the balance between demands and resources available within the environment.

Furthermore, participants are encouraged to understand the social side of leadership. In short, the training intervention highlights that the more that a leader is seen to act on behalf of a group; championing a group, creating and sharing a vision for the group and defending a group, the more likely that employees will regard this leader as being prototypical, and subsequently demonstrate greater followership (Hais, Hogg, & Duck, 1997; Hogg, Hains, & Mason, 1998). Participants are also asked to reflect on their previous experiences of leaders and use behavioural identification (repertory grid) techniques to develop a framework of behaviours. The idea is that this helps participants to identify supportive and unsupportive behaviours and provides the opportunity to reflect and draw upon their own experiences to assist their learning (Kolb, 1984).

A key component of the training intervention is the use of short video scenarios which convey a series of common 'problems' or situations that leaders within healthcare settings have to face, and the ways in which leaders may act or behave in response to the situation. Whilst the purpose of this

research is not to discuss the design of the training intervention in detail, a brief overview of the development of these scenarios is provided here to assist the reader. The initial phase of developing these scenarios involved conducting interviews and focus groups to generate themes relating to common 'problems' that leaders in healthcare settings are required to manage. The interviews and focus groups included leaders from across departments and healthcare organisations, who were deemed to be subject matter experts. Key themes were identified from these interviews and focus groups, and these were then grouped into broader problem areas (e.g. 'verbal abuse'). The problem areas identified were validated by a separate group comprised of leaders, as well as occupational health and human resource representatives. Feedback from this group confirmed the key problem areas had been identified, and this subsequently helped to determine six scripted scenarios that were deemed to reflect the most common scenarios within the NHS. The scenarios covered the following topic areas; holding a conversation with a member of staff who has a high (non-medically certifiable) sickness absence rate, managing change within the office environment, dealing with a member of staff who has been verbally or physically abused, managing a member of staff who is returning from long-term sickness absence and having a difficult conversation with a member of staff. It is important to note that a common theme of poor communication underlies all scenarios and was identified as an important area to address within the training.

The subject matter experts were then asked to independently rate each of the scripted scenarios in terms of how realistic, common and useful they felt they were. It should be noted that representatives within this group were taken from a range of departments and different levels of seniority to ensure that the scenarios produced accurately reflected the diversity of real-life management situations (Whitcomb, 1999). This is an important process to ensure that the scenarios produced are appropriate and relevant to the target audience to minimise the risk of poor transfer or negative learning (Holton et al., 2000). In accordance with the recommendation of Smith (2004), the scenarios were

designed to be realistic, but challenging enough to aid new learning. The independent ratings of the scenarios validated them as being realistic, and confirmed that the scenarios were common and useful. Following the approval of the scripted scenarios, these were then produced into short videos using actors. During the training sessions, participants were asked to watch a scenario, and this was then followed by a facilitated discussion to explore the supportive and unsupportive behaviours modelled by the leader. In addition, participants were encouraged to reflect on their own response in similar situations and consider how they could apply their learning to future situations they may encounter.

Whilst there is a wealth of research demonstrating the benefits of using scenario-based training interventions for leadership in crisis situations (Moats et al., 2008), there is a noticeable gap in the research exploring the application of scenario-based training for everyday leadership and management situations; particularly within healthcare settings. Therefore, this research provides a unique opportunity to establish whether a scenario-based training intervention that has been designed to reflect common leadership situations within healthcare settings can increase awareness of supportive and unsupportive leadership behaviours and their impact.

The training also utilises techniques based on goal-setting theory (Locke & Latham, 1990, 2006) by providing clear objectives from the start of the programme and referring to them throughout the course of the day. In addition, trainees were guided through the process of setting challenging but achievable goals and were encouraged to break these down into sub-goals to help motivate and enhance learning and performance (Locke & Latham, 2006). The objective of integrating goal-setting into the training intervention is to help the translation of intentions into action. The training intervention also introduces trainees to research surrounding behaviour change, and the idea that change occurs in stages. Specifically, drawing on the transtheoretical model (Prochaska & DiClemente, 1983), the training intervention promotes the process of self-re-evaluation through encouraging trainees to reflect on their

own self-image. In addition, the training supports the process of environmental re-evaluation by encouraging trainees to consider the impacts of their behaviour on their social environment, as well as raising consciousness of new ideas and facts to support behaviour change. In summary, participants were presented with the following objectives for the training intervention:

- To see/consider how supportive leader behaviour manifests/applies in specific situations
- To reinforce supportive, authentic leader behaviours
- To look for opportunities to demonstrate supportive leader behaviours
- To explore the role of personal, environmental and behavioural components
- To develop a plan to help action supportive behaviour back in the workplace.

A basic overview of the training activities that make up the one-day training course and a 'typical' timetable is provided in Table 5.2.

Table 5.2: Training timetable

Start Time	End Time	Topic/Activity
09:30	10:00	Activity 1: Welcome, overview & introductions • To settle delegates and to create a safe and relaxing learning environment • To understand delegate expectations • To outline course objectives • To outline learning outcomes
10:00	11:30	Activity 2: Supportive & unsupportive behaviours • To engage delegates in reflecting on their personal experiences • To help delegates become more aware of the impact of a wide range of both supportive and unsupportive behaviours • To demonstrate the degree of common experience across different leadership settings and situations • To illustrate the impact of both supportive and unsupportive leader behaviours • To consider factors that promote or prevent supportive leader behaviours

Start Time	End Time	Topic/Activity
10:00	11:30	To develop a framework of supportive and unsupportive behaviours
11:30	11:45	Break
11:45	13:00	Activity 3: Video scenarios - To discuss perceptions of supportive and unsupportive behaviours using video-based scenarios - To show delegates that there are common responses as well as differences in dealing with situations - To start up discussions on supportiveness - To start up discussions on effectiveness - To begin exploring the relationship between supportiveness and effectiveness
13:00	13:30	Lunch break
13:30	15:00	Activity 4: Understanding ourselves, our behaviours and our contexts - To introduce delegates to the dynamic interaction between personal, environmental and behavioural components - To increase self-awareness regarding personal thinking styles, behaviour and environments - To help delegates to apply this awareness to their staff/employees
15:00	15:15	Break
15:15	16:00	Activity 5: Taking action - To inform delegates about the behaviour change model/process - To help delegates to reflect and set goals for change - To help delegates set a concrete plan of action
16:00	16:30	Post-course action, evaluation & close - To remind delegates of post-course actions including the evaluation - To assure delegates of the continued support available to them through the online SBT system - To close the course

5.1.5 Training delivery

The training intervention was delivered by local trainers within each organisation using a ‘train the trainer’ approach. This approach was chosen for several reasons; primarily because it enables trainers within each organisation to build greater awareness and understanding of leadership behaviour, whilst at the same time minimising costs that would be associated with external

trainers. Furthermore, because the trainer works within the organisation, they are likely to have a better understanding of the culture of the organisation, and the most effective informal communication methods. It also gives trainers greater flexibility over when the training is conducted and therefore overcomes some of the potential logistical issues of training within organisations.

To avoid any conflict of interest, the author is not involved in the delivery of the training programme. Consultants at the applied psychology consultancy firm who developed the training intervention were responsible for delivering the 'train the trainer' programme to two nominated trainers from each of the participating organisations. The trainers had voluntarily put themselves forward to act as the trainer for their organisation and had previous experience training either within their current job role or in previous roles. Furthermore, organisations were encouraged to select trainers against the competency framework established through previous research. Whilst it is not within the scope of this research to discuss the development of this competency framework, a brief overview of the research process behind this framework is provided here for the reader's information. This research involved both a top-down and bottom-up process for identifying the behavioural competencies considered important for the effective delivery of adult training. This was achieved by holding interviews and focus groups with learners themselves, trainers, as well as the managers of trainers across various organisational settings and sectors. Figure 5.2 provides an overview of the core competencies that were identified as important for the effective delivery of training. There is no hierarchy in the competencies shown; all competencies are critical to supporting the effective delivery of training. However, some behavioural patterns may be called upon more readily during different stages of the process of delivering a training course. For example, the dimensions of the competency 'building relationships' may be needed at the very beginning of a training programme when the trainer is seeking to build a bridge between the delegates and the trainer and between the delegates themselves.

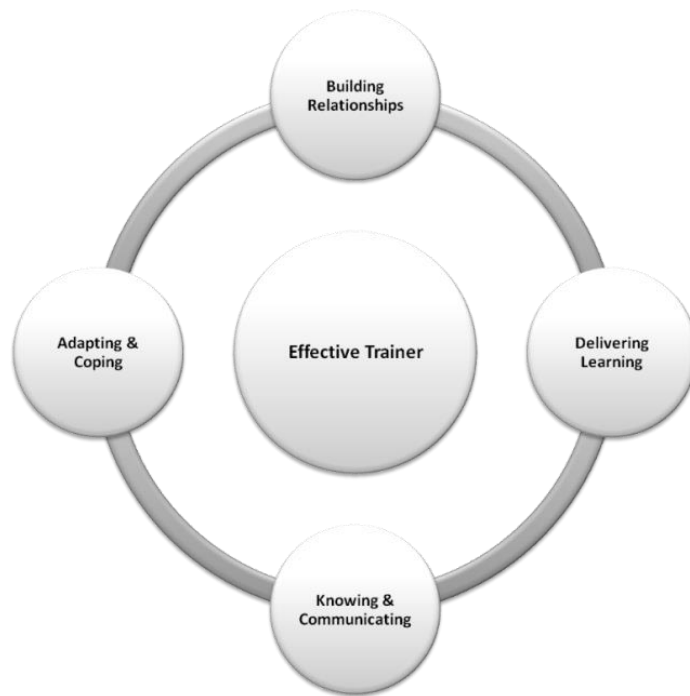


Figure 5.2: Core competencies of an effective trainer

The full competency framework is made up of 14 dimensions and follows a hierarchical structure, with a small number of broad competencies at the top and a larger number of dimensions at the bottom. The dimensions make up the behaviours considered important, all other things being equal, for a trainer to perform successfully. The competency dimensions are grouped into four themes as outlined in Table 5.3. The framework was designed to be used as a baseline against which a trainer is to be developed, and each of the competencies was discussed during the ‘train the trainer’ session. The framework is purposely broad and generic. It covers the roles and functions of most trainers and is not aligned to any technical or specialist skill or ability within any training field. A full outline of the competency framework can be found in Appendix B.

Table 5.3: Trainer competency dimensions

Competency	Dimensions	
Building Relationships (BR)	i.	BR1: Orientation to people
	ii.	BR2: Climate: working relationships
	iii.	BR3: Principles and values
Delivering Learning (DL)	i.	DL1: Preparing the learning environment
	ii.	DL2: Managing the learning environment
	iii.	DL3: Delivery style
	iv.	DL4: Engaging learners
	v.	DL5: Monitoring and feedback
	vi.	DL6: Managing interpersonal and group dynamics
Knowing & Communicating (KC)	i.	KC1: Developing knowledge
	ii.	KC2: Knowledge application
Adapting & Coping (AC)	i.	AC1: Meeting challenge
	ii.	AC2: Passion
	iii.	AC3: Commitment to learning and improvement

Following attendance at the ‘train the trainer’ course, the nominated trainers gave their consent to participate in this research study and agreed to coordinate the distribution and collection of evaluation questionnaires locally. All trainers were offered further support prior to delivering the training; this allowed them to discuss any questions they had around the training content, delivery or evaluation. The trainers then went on to deliver the one-day ‘Supportive Leadership and Management Behaviour’ SBT intervention to leaders and managers within their own organisation. The target was for each organisation to train a minimum of 50 leaders; this approach allowed a large sample to be generated within a relatively short time period.

5.2 Procedure

Each participating organisation advertised the training intervention locally using posters, as well their own weekly news bulletins, emails and intranet. All participants voluntarily put themselves forward to attend and were verbally briefed on the research at the time of initial contact as well as being given an information sheet (Appendix C). Participants were also made aware of the potential use of the research to inform leadership development and training across organisations.

All participants were given a paper copy of the pre-course evaluation questionnaire to complete upon arrival at the training venue (Appendix D). At the end of the training programme, participants were asked to complete the post-course evaluation questionnaire (Appendix E) and place this in the same envelope as their pre-course questionnaire before sealing this. An administrator at each participating organisation was responsible for coordinating and posting the questionnaires back to the author via recorded delivery, or in some cases, arrangements were made for the completed questionnaires to be collected in person by the author. All data was entered into a SPSS database and stored securely.

The follow-up questionnaire was distributed to all participants 6 months after their attendance at the training course (Appendix F). This time lapse was in line with other research and recommendations for assessing the impact of an intervention over time (Pineda, 2010). Each trainer was responsible for keeping a record of all training events that had taken place, along with the email addresses of all participants (if the individual gave their consent to this information being stored). This database was used to email the participants a link to the online follow-up evaluation questionnaire at the appropriate time. After completing the follow-up questionnaire, participants were asked to click on a button to confirm if they were happy to submit their responses. At this stage, they were reminded that upon submission, responses would go into a secure database. Following this, responses were extracted into a SPSS database, and this was organised so that where possible the pre-course, post-course and follow-up data were matched for each case (i.e. each participant).

5.3 Ethical considerations

This study was conducted in accordance with the British Psychological Society ethical guidelines (BPS Code of Ethics and Conduct, applicable from 2009). Attendance at both the 'train the trainer' programme and the 'Supportive Leadership and Management Behaviour' SBT intervention were entirely voluntary. As the intervention being evaluated was delivered using a

'train the trainer' approach, it was very important that the local trainers within each organisation were made aware of the ethical principles and procedures that needed to be followed. To support this, trainers from each participating organisation were provided with an initial briefing which included information about the importance of informing participants of the voluntary nature of the training and their participation in the research project. In addition, trainers were made aware of the need to communicate each participant's right to withdraw.

Each trainer was given assistance with developing posters and other communications that could be used internally to help advertise the training and to provide information about the research being undertaken. All communications were checked by the author to ensure accuracy and transparency of information, before they were then used locally to help with the recruitment of participants.

Throughout the course of this research, regular contact was maintained with trainers to ensure that they had the opportunity to ask questions and raise any concerns, and to remind them of the ethical guidelines. In addition, the author observed at least one training session at each organisation to ensure that these procedures were being followed and to provide any feedback to trainers. Through observing trainers in action, this also helped to provide assurance that there was consistency in the quality of training delivery across organisations.

The covering page of the evaluation questionnaires informed participants that completion was voluntary, but that their help would be greatly appreciated. They were advised that the questionnaire was expected to take between 5 and 10 minutes to complete and that there were no right or wrong answers. Participants were reminded that they should be honest and frank in their responses. For the paper-based pre-course and post-course evaluation questionnaires, envelopes were provided, and respondents were encouraged to seal these so that they could be returned, unopened, to the author. Participants were informed that they had the right to withdraw from the

training intervention, without having to give a reason for doing so. They were also made aware that once the completed questionnaires had been placed in a sealed envelope and collected (or they had clicked on the 'submit' button in the case of the online questionnaires) this was taken as an indication of their consent for the data to be used for the purposes of this research. All participants were provided with the author's contact details and informed that they could raise any questions or concerns about the training or research. In addition, each organisation provided participants with the contact details for their occupational health service should participants feel affected in any way by their participation in the training intervention or research.

It should be noted that during preliminary investigations with the intending organisations, possible systems for linking longitudinal data for the questionnaires were discussed. For example, the use of raffle tickets, ID numbers and false names were explored, but all discarded as ideas. The general feeling amongst the staff representatives was that this may cause unnecessary suspicion, and that it was likely that participants would forget their IDs/false names. Therefore, it was agreed that the best method for matching data over time would be for participants to enter some basic demographic information on the questionnaires, such as their date of birth and initials. Therefore, participants were informed that although their responses were not anonymous, they would be confidential. To assist with this, a clear explanation and rationale for including this data was provided at the start of the training session, prior to the evaluation questionnaires being completed. Participants were given assurance that the data would be used for research purposes only and would not be used to make their responses identifiable in any way.

5.4 Measures

As previously outlined, the primary purpose of this second study is to evaluate a training intervention aimed at promoting supportive leadership behaviour. This was achieved using evaluation questionnaires which included four key measures to assess the impact of the training. Table 5.4 below

provides a summary of the measures used and indicates whether the measures were included within the pre-course, post-course and/or follow-up questionnaire. In addition to these measures, it should be noted that basic demographic information was also collected, including participant age and sex. Each of the measures used within this study will be discussed in more detail in the sections that follow.

Table 5.4: Measures used within study II

Measure	Pre-course	Post-course	Follow-up
Leader behaviour (awareness)	✓	✓	✓
Leader self-efficacy (capability) perceptions	✓	✓	✓
Reactions to training		✓	
Transfer of training			✓

5.4.1 Supportive leader behaviour (awareness)

This research looks to establish whether awareness of the supportiveness of leader behaviours and their impact can be increased through training. To support this, there is a need for a measurement tool that focuses on uncovering the specific ‘supportive’ and ‘unsupportive’ behaviours. The development of such a tool would allow researchers and practitioners to better understand which behaviours need to be developed and encouraged in leaders, and those behaviours that should be avoided. Although previous attempts have been made, one of the main limitations of the existing measures of leader and manager behaviour is that they are made up of very general items or statements and fail to address the specific behaviours that need to be developed and promoted within training interventions. This is important as Gioia and Sims (1985) argue that the way in which individuals respond to questions about leader behaviours will depend on the items used. Where the items are not behaviourally specific, then implicit leadership theories may influence responses. For instance, items such as; ‘My supervisor really cares about my well-being’ (Kottke & Sharafinski, 1988) do not provide any information about what it is specifically that the supervisor does or the

behaviour that they demonstrate to make the employee feel that they care about their well-being.

Furthermore, despite the developments in leadership theory, many of the existing measures of supportive leadership behaviour were designed over 30 years ago and are unlikely to reflect the leadership style that is required in the modern workplace (Rooney & Gottlieb, 2007). Existing frameworks of leader behaviour have also been criticised for focusing too heavily on the current models of leadership and as such they do not consider the full range of behaviours that are important for employee health and well-being. Furthermore, many measures originate from outside of the UK and so cultural differences may affect how applicable this is for leaders and managers who operate within the UK (Yarker, Lewis, & Donaldson-Feilder, 2008). In summary, whilst there is a wealth of research demonstrating the impact that leaders can have on their employees, there is still a need for further research which drills down to the specific behaviours to identify the impact that these behaviours have (Rooney & Gottlieb, 2007).

To develop a sound measure, Rust and Golombok (1999) argue that it is necessary for a theoretical framework to be developed, and for the items to be generated in a way that ensures they are clear and concise, and where the use of jargon and leading questions is avoided. Items and any accompanying instructions should also be piloted to test the wording and the way in which items are displayed. It is also essential that the reliability of the measure is assessed; items should be related to each other (internal consistency reliability), but not so highly related that they are effectively measuring the same thing. Assessments of validity should be carried out to establish if the items are measuring the concept that they set out to measure and if scores on the measure predict the expected outcomes.

One attempt at creating a measure of manager behaviour was made by Yarker et al. (2008). Using both qualitative and quantitative approaches, they came up with a 'stress management competency indicator tool' of manager behaviour that was made up of 66 items, separated into four competencies,

each containing 12 sub-competencies. They argued that through identifying a definitive framework of leadership behaviour, leaders will be able to better understand what it is they need to do to promote the health and well-being of their staff. This information can subsequently be used to help inform leadership training interventions.

Whilst the resulting questionnaire is a promising development in understanding the behaviours of supportive and unsupportive leaders, there are several limitations that can be identified. Firstly, the use of principal components factor analysis to refine and validate the measure is questionable. Many researchers have argued that this is not a true factor analysis as it does not take into consideration the underlying factor structure or the distinction between shared and unique variance, and as such it can only be used as a data reduction method (Costello & Osborne, 2005; Floyd & Widaman, 1995). In addition to this, the resulting model was not confirmed or cross-validated; therefore, making it difficult to ascertain whether the four competencies that came out of the principal component analysis were a good fit to the data (Floyd & Widaman, 1995). Finally, Yarker et al. (2008) did not explore whether the tool could predict outcomes, and so it is difficult to assess the criterion-related validity.

A similar attempt at developing a measure of manager behaviour was made by Rooney and Gottlieb (2007). They interviewed 25 participants and came up with over 100 behaviours. The behaviours were categorised into eight supportive groups (genuine concern, recognition, task guidance and assistance, trustworthiness, professional development, open communication, reasonableness and encouraging autonomy) and six unsupportive groups (apathy, untrustworthiness, bureaucratising, monitoring employees' whereabouts, limiting decisional discretion and undermining). Following a review of these behaviours, they removed behaviours making up the trustworthy and reasonableness categories as it was decided that these behaviours had been duplicated within some of the other groups. As part of the validation process, the remaining behaviours were used to form a survey

which was tested in a sample of 100 employees across different organisations. Following on from this, Rooney and Gottlieb (2007) tested the measure in a bigger sample size ($N = 247$). A principal component factor analysis using oblique rotation indicated a possible three-factor structure (enabling job support, personal and esteem support and micromanaging).

However, as with other measures of manager or leader behaviour, there were several limitations to the approach that was taken. The results of their factor analysis showed that some items could be subject to cross-loading. In addition, confirmatory factor analysis was not carried out making it difficult to draw conclusions about the proposed three-factor model. Furthermore, they used a frequency scale to assess the behaviours (rarely, occasionally, often and always), which has been shown to distort findings as some behaviours may not happen often, but that is not to say that they are not important and do not have a big impact (Shipper & Davy, 2002). In addition to this, the choice of wording for some of the items leaves them open to misinterpretation, for example; 'My manager goes to bat for me at work when I need it' is somewhat ambiguous and may not be understood by all.

It is evident that despite recent progress in the development of a measure of leader behaviour, there are still some fundamental weaknesses of the existing measures. To overcome some of these concerns, a bespoke measure of leader behaviour was used within this research. Although the author was involved in its development, this was carried out as part of unpublished work prior to this research and so it is not discussed in detail here. However, to assist the reader in understanding the background to this measure, some basic information is provided.

To identify supportive and unsupportive leader behaviours, repertory grid technique was used with a sample of staff across healthcare organisations. This technique was used on several groups, consisting of between four and ten participants who were from across different levels within the organisation (from senior management to front line staff). Repertory grid is an interviewing technique used to understand how a person views their world and has been

applied widely across different fields. Within organisations, the repertory grid approach is a useful way of capturing the competencies or behaviours that are required for a job role. The technique is based on Kelly's (1955) personal construct theory, which outlines how we draw comparisons and look at alternatives to understand reality. In other words, for us to truly understand what is meant by a 'good' or 'supportive' leader, we must explore and compare this to its contrast. Through adopting this approach, we come to understand the individual's constructs, rather than imposing our own viewpoint or assumptions (Jankowicz, 2005). Using this technique, participants drew upon their own experience of leaders to generate a list of behaviours that are deemed to be supportive and unsupportive. Participants were reminded that the purpose of this was to identify the behaviours, rather than the individuals themselves, and all participants were instructed not to name the leader whose behaviour they were reflecting on. The process was stopped at the point that no new behaviours were identified; by which time 70 distinct leadership behaviours had been identified. An initial exploratory factor analysis of these behaviour items resulted in 17 items which fell into two factors; 12 of which related to positive leadership behaviours, and 5 of which related to negative and performance-driven leadership behaviours.

It is important to note here that this measure seeks to establish how supportive these behaviours are perceived to be; in this sense, it assesses awareness of the supportiveness of these behaviours, rather than asking leaders to rate whether they believe they demonstrate these behaviours. This approach was chosen for several reasons; firstly, given that this measure is to be used to assess both the immediate and long-term impact of the training, it would not be appropriate to try to establish whether leaders' demonstration of these behaviours changed following their participation in the training intervention. Behaviour change takes time (Prochaska et al., 2013), and leaders would need to be given the opportunity to adapt their behaviours back in the workplace before a behavioural impact assessment can take place. However, effective training interventions might be expected to bring about a shift in

awareness of supportive and effective leadership behaviours and the impact behaviours have. Therefore, it becomes possible to evaluate both the immediate and long-term impact of the training on behavioural awareness. In addition, there is good evidence to suggest that awareness plays a crucial role in subsequent behaviour change (Prochaska & DiClemente, 1983; Prochaska, Johnson, & Lee, 1998). Finally, by asking individuals to talk about behaviours in a generic sense, rather than their own behaviour, this may make the results less prone to social desirability bias. Leaders are not responding about how they behave, and so they might be less likely to feel the need to respond in a way that is seen to be socially acceptable. This is more in line with indirect questioning techniques that have been shown to reduce social desirability (Fisher, 1993).

To use this tool within the current research, it is important to test and refine it within the research sample. This was achieved by using different statistical techniques that will be discussed next. To assist the reader in interpreting the results, the items have been coded and are shown in Table 5.5.

Table 5.5: Items used in the measure of leader behaviour (awareness)

Observed variable name	Item code
Demonstrates a genuine interest in your well-being	MB1
Sets demanding expectations for you	MB2
Gives positive feedback on work performance	MB3
Continuously pushes you to meet performance targets	MB4
Says thank you for a job well-done	MB5
Is consistent from one day to the next in the way he or she manages you at work	MB6
Encourages you to share your views on work matters	MB7
Criticises the effort you put into your job	MB8
Makes himself/herself available to you when necessary	MB9
Appears to treat all staff fairly	MB10
Sets clear expectations about what is required from you	MB11
Is quick to find out who is to blame when things go wrong	MB12
Listens carefully to different points of view before coming to his or her conclusions	MB13

Observed variable name	Item code
Tends to decide what he or she thinks is best then simply tells people what to do	MB14
Is quick to acknowledge his or her own mistakes	MB15
Appears to understand how their own behaviour/actions impacts on others	MB16
Is quick to deal with poor performance	MB17

Firstly, the distribution of data was explored in the pre-course sample of 1283 leaders. Leaders were asked to rate how supportive or unsupportive they consider these behaviours to be using a 7-point scale (1 = very unsupportive, 7 = very supportive). The mean scores ranged from 2.49 to 6.13. The dataset was checked, and no missing data was found. A frequency analysis of the data was conducted, and the data was reviewed to check for univariate normal distribution. The output showed skew was within the acceptable limits of ± 2 (George & Mallery, 2003) and kurtosis was within the acceptable limits of ± 5 (Kendall & Stuart, 1958). Sampling adequacy was tested using the Kaiser-Meyer Olkin (KMO) test; this was found to be within acceptable limits of between .8 and .9. The KMO values for individual variables were shown to be above .7, indicating that factor analysis was appropriate (Hutcheson & Sofroniou, 1999). The determinant of the R-matrix was shown to be greater than 0.00001, indicating that there were no problems with multicollinearity (Field, 2013).

Next, an exploratory factor analysis was conducted (principal axis factoring) to explore the factor structure for this behaviour measure. The factor analysis was interpreted against widely accepted criteria for determining a reliable factor structure, which has been outlined previously (see section 4.4.1). To avoid repetition, this has not been outlined here.

After removing items that cross-loaded or scored low on communalities, the exploratory factor analysis revealed a three-factor solution (see Table 5.6), explaining 71% of the variance. The items that cluster on to factor 1 suggest that this factor represents democratic leadership behaviour, factor 2 represents performance/target-driven behaviour and factor 3 represents behaviours that reflect greater self/other awareness. Self/other awareness

refers to a leader who has a good understanding of the impact of their own behaviour and recognises their own mistakes, but also has a good awareness of the views and behaviours of others around them. As highlighted within the earlier literature review, this is fundamental to authentic leadership (Avolio et al., 2004).

Within factor 1 the range of variance explained for an item was between 57% to 76%, within factor 2 the range was from 29% to 81% and the range of variance was 27% to 79% within factor 3. These are well above the 16% of the variance recommended by Stevens (2002).

Table 5.6: Factor loadings of the leader behaviour (awareness) measure

Item code	Factor 1 loading (PreBF1)	Factor 2 loading (PreBF2)	Factor 3 loading (PreBF3)
MB5	.87	.01	.01
MB3	.86	.01	.00
MB1	.83	.01	.00
MB11	.82	.07	.00
MB7	.81	.01	.05
MB10	.80	.03	.08
MB6	.77	.03	.01
MB9	.76	.01	.07
MB4	.02	.90	.07
MB2	.02	.54	.04
MB16	.02	.06	.89
MB15	.03	.04	.79
MB13	.09	.04	.74
MB17	.01	.10	.52
Eigenvalue	7.04	1.49	1.40

To test the three-factor solution, a confirmatory factor analysis was carried out using 'R'. This programme supports the use of robust maximum likelihood estimation. This was necessary as Mardia's test for multivariate normality showed *p*-values for skewness and kurtosis of less than .05, indicating multivariate non-normality (Mardia, 1974).

Within 'R', the 'lavaan' package for structural equation modelling was used (Rosseel, 2012), alongside the 'SemPlots' package (Epskamp, 2013). The three-factor model was tested against the model fit indices (see section 4.4.1

for an overview of model fit statistics) and all except the χ^2 value fell within acceptable levels of a 'good' fitting model (see Table 5.7). Whilst a non-significant value for χ^2 is deemed to be an indicator of a good model, as previously outlined it is very difficult to obtain this in practice. Therefore, a judgement was made based on all fit indices. In summary, model 1 was seen to support the three-factor solution with no modifications required.

Table 5.7: Model fit statistics for the leader behaviour (awareness) measure

Model version	χ^2	SRMR	TLI	CFI	RMSEA
1 ($N = 1283$)	$\chi^2 (74) = 275.24$ $p < .001$	0.02	.96	.97	.05 (LO 90 = .04, HI 90 = .05)
2 (random 75% sample) $N = 962$	$\chi^2 (74) = 187.673$ $p < .001$	0.03	.97	.98	.04 (LO 90 = .04, HI 90 = .05)
3 (random 50% sample) $N = 642$	$\chi^2 (74) = 155.284$ $p < .001$	0.03	.97	.98	.04 (LO 90 = .03, HI 90 = .05)

Tabachnick and Fidell (2013) recommend that the model is cross-validated by performing a confirmatory factor analysis in a separate sample. However, it was not possible to obtain an entirely separate sample to validate this measure. Therefore, the model was validated using random samples taken from this dataset (50% and 75%). Table 5.7 shows that the model fit indices indicated a good fit in both samples and therefore this model was accepted. The final model is shown in Figure 5.3, where the circular shapes represent the latent (unobserved) variables and the rectangles represent the observed, measured variables.

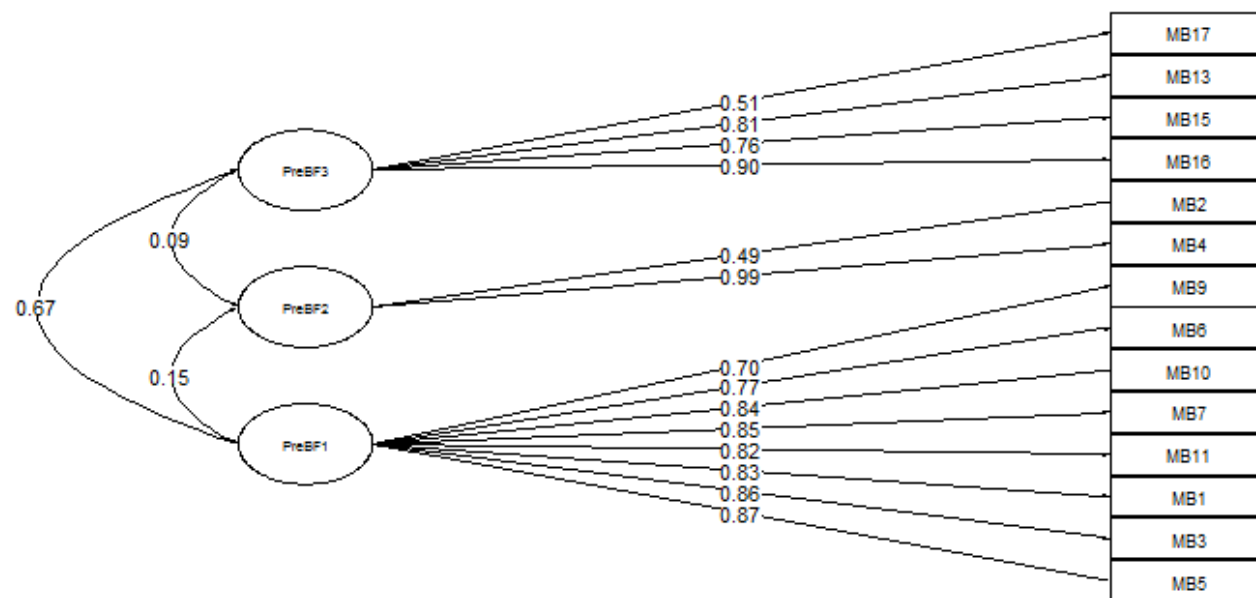


Figure 5.3: Model of behavioural factors

Notes: PreBF1 = Democratic, PreBF2 = Performance/target-driven, PreBF3 = Self/other awareness

In summary, using the pre-course sample of 1283 leaders, the scale for democratic leader behaviour (PreBF1) is made up of eight items ($\alpha = .94$), the scale for performance/target-driven behaviour (PreBF2) is made up of two items ($\alpha = .65$), and the scale for self/other awareness (PreBF3) is made up of four items ($\alpha = .82$). The reliabilities for factor 1, 2 and 3 for the post-course measure were .95, .65, and .82 respectively, and at follow-up, the reported reliabilities were .96, .76 and .86.

5.4.2 Leader self-efficacy perceptions

As highlighted within chapter two, leader self-efficacy (capability) is an important evaluation criterion for any training intervention as it can help to explain why individuals do not always perform optimally, despite having all the knowledge and skills that are needed to perform a task. Self-efficacy theory (Bandura, 1977a, 1982, 1997) states that our perceptions of our own ability can mediate the relationship between our knowledge and skills and subsequent behaviour. In other words, the beliefs or perceptions we have about our ability to successfully perform a specific task within the given environment will influence the tasks that we choose to take on, the environments that we put ourselves in and our overall performance. Our self-efficacy can also influence the effort and level of persistence that is given to tasks and the emotional reactions we experience. Lower self-efficacy may increase the likelihood of an individual giving up in the face of setbacks; the individual may focus on what they lack and the difficulties they might encounter, rather than giving their primary attention to how to successfully perform the task at hand (Bandura, 1982). Subsequently, this is likely to increase levels of stress and anxiety (Lazarus & Launier, 1978). Self-efficacy is a key self-regulatory mechanism and can therefore provide an indirect assessment of leaders' subsequent behaviour. Leader self-efficacy, along with other personal components can also influence follower outcomes, including their performance, well-being and their own personal components (Walumbwa et al., 2010b; Woolley et al., 2011).

Importantly, Bandura (1982) highlights that our perceptions of self-efficacy (capability) are domain specific and “vary across activities and situational circumstances” (p.124), and as such it is necessary to design a measure of leader self-efficacy which addresses the specific situations that leaders face. The measurement of self-efficacy needs to be grounded within specific contexts, as without this the individual’s appraisal of how well they will perform at a task becomes more abstract and represents a separate construct both conceptually and psychometrically (Stajkovic & Luthans, 1998).

The measure used within the pre-course, post-course and follow-up evaluation questionnaires has been designed specifically for the research population. The domains or areas of leader self-efficacy assessed were informed by the scenarios and content covered within the training intervention. However, steps were also taken to ensure that the self-efficacy items varied in terms of their difficulty level (Bandura, 1997, 2006a). To achieve this, an expert panel was formed of 12 individuals who work across different healthcare organisations. The expert panel comprised of managers within a range of departments, including; human resources, nursing, training and development and health and well-being. This helped to ensure that the panel had a good understanding of the range and types of situations that managers are likely to face. After reviewing several possible items, the expert panel came up with five items that were deemed to assess realistic situations that healthcare leaders face in their job role and varied in terms of their difficulty rating. These items were subsequently used as part of the training evaluation. Ratings are given using an 11-point scale (0 = not at all confident to 10 = completely confident). The five items used to measure leader self-efficacy have been coded as shown in Table 5.8.

The distribution of the data was explored in the same (univariate) normally distributed pre-course sample outlined previously, which was made up of 1283 leaders, with no missing data. The response frequency for each of the items within the leadership self-efficacy measure was explored, and the mean scores of items ranged from 6.33 to 7.11.

Table 5.8: Items used in the leader self-efficacy measure

Observed variable	Item code
Where one member of your team comes to see you, and complains about another member of the team who is not performing their job satisfactorily and that as a result they are having to pick up the other person's work. They claim that others within the team have noticed this issue and are muttering that this is unfair.	ManCap1
Where you have a member of staff who is regularly off sick but always within the period of self-certifiable absence/sickness. Following a referral to occupational health you have just received a report from them which says there is no underlying cause to the periods of absence.	ManCap2
Where during a period of organisational change and development it has become necessary for two teams to become merged into one new one. This has led to concerns amongst staff regarding job security. You are responsible for making the merger happen as efficiently as possible.	ManCap3
Where you receive a phone call from a member of your team, who tells you that she/he is faced with a very irate member of the public who is complaining about the quality of care being given to a very poorly relative. In a trembling voice, you are told that the member of the public is shouting, swearing, finger pointing and clenching their fists and saying that they will not leave until something is done.	ManCap4
Where some of those you manage are increasingly complaining that one person within the work group appears to rely on emails and written notes, rather than engaging people in face to face communication. The complaint put to you is that the person concerned is not communicating sufficiently and when they do it is in a way that some people find insulting. No one is questioning the importance of what is being written about but people say they feel the use of email and written notes is impersonal and inefficient.	ManCap5

An exploratory factor analysis was then conducted (principal axis factoring) to explore the factor structure for the leader self-efficacy measure. As with the leadership behaviour measure, oblique rotation (direct oblimin) was used as any underlying factors or domains of self-efficacy were likely to be related. The factor analysis was interpreted against the same strict criteria outlined previously (see section 4.4.1). The exploratory factor analysis revealed a one-factor solution; explaining 63% of the variance (see Table 5.9). Within this factor, the variance explained for by an individual item ranged from 44%

(ManCap5) to 67% (ManCap1) which is well above the 16% of the variance recommended by Stevens (2002).

Table 5.9: Factor loadings of the leader self-efficacy measure

Item code	Factor Loading
ManCap1	.82
ManCap3	.76
ManCap2	.74
ManCap4	.70
ManCap5	.66
Eigenvalue	3.16

To test the one-factor solution, a confirmatory factor analysis was carried out using 'R' and the 'lavaan' package for structural equation modelling (Rosseel, 2012), alongside the 'SemPlots' package (Epskamp, 2013). To account for multivariate non-normality, robust maximum likelihood estimation was used. The confirmatory factor analysis was assessed against the same model fit criteria outlined previously (see section 4.4.1). The hypothesised one-factor model for the measure of leader self-efficacy did not meet the model fit criteria for most of the indices and therefore could not be considered a 'good fit' (see Table 5.10). Therefore, the modification indices were explored, and the decision was made to remove item 'ManCap1'. This revised model 2 showed a much-improved fit to the data; the chi-square value was reduced and there was an increase in the TLI and CFI values. On balance, this model was deemed to be a good fit and was accepted.

In line with best practice, model 2 was then cross-validated. As previously outlined, the model would ideally be cross-validated in a separate sample; however, this was not feasible and instead in a random sample of 50% (model 3) and then 75% (model 4) was selected from the existing sample. The model fit indices for these random samples had a similarly good fit to model 2, except for the value for TLI in model 4 which fell slightly below the recommended value of .95. After exploring the modification indices and considering this scale is only made up of four items, no further items were removed. The final model is shown in Figure 5.4.

Table 5.10: Model fit statistics for the leader self-efficacy measure

Model version	χ^2	SRMR	TLI	CFI	RMSEA
1 ($N = 1283$)	$\chi^2 (5) = 31.50$ $p < .001$	0.02	.73	.86	.06 (LO 90 = .05, HI 90 = .08)
2 ($N = 1283$)	$\chi^2 (2) = 2.69$ $p = .26$	0.01	.98	.99	.02 (LO 90 = .00, HI 90 = .05)
Cross-validation model 3 (random 50% sample) $N = 642$	$\chi^2 (2) = 0.56$ $p = .76$	0.00	1.00	1.00	.00 (LO 90 = .00, HI 90 = .05)
Cross-validation model 4 (random 75% sample) $N = 962$	$\chi^2 (2) = 3.40$ $p = .18$	0.01	0.93	0.98	.03 (LO 90 = .00, HI 90 = .06)

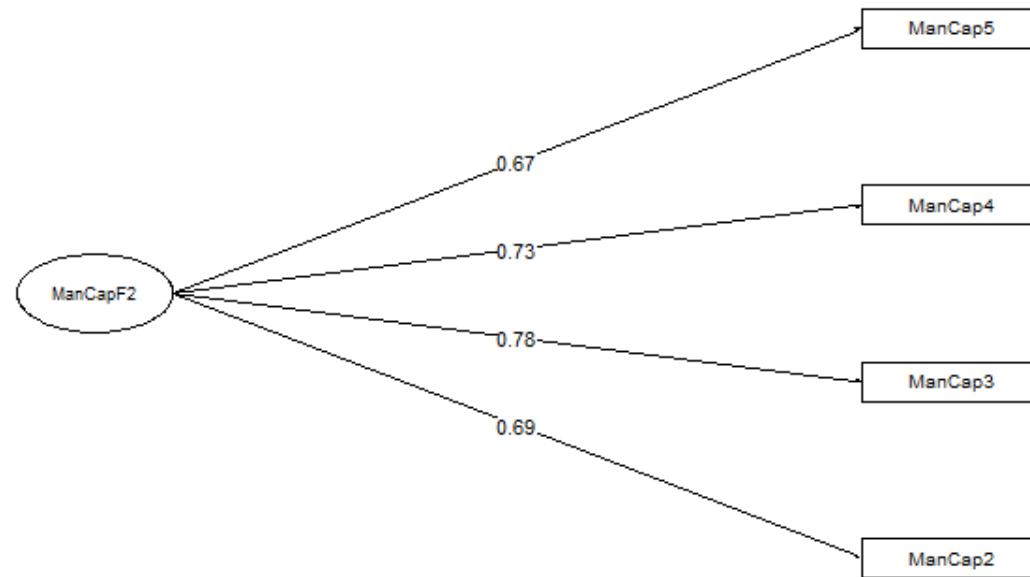


Figure 5.4: Model of leader self-efficacy

Notes: ManCapF2 = Leader self-efficacy

In summary, within the sample of 1283 leaders, the confirmatory factor analysis revealed that the measure of leader self-efficacy was made up of four items ($\alpha = .81$). This measure was also shown to have good reliability within the post-course ($\alpha = .89$) and follow-up evaluation data ($\alpha = .86$). It should be noted that although these four scenarios were shown to fall into one overall factor of 'leader self-efficacy'; as self-efficacy is domain-specific there is value at looking at the differences in leader self-efficacy for each individual scenario over time. Therefore, both the individual items and this one-factor solution will be utilised within the subsequent analyses.

5.4.3 Training reactions

Reactions to training were measured as part of the post-course evaluation questionnaire using four items adapted from Warr, Allan and Birdi's (1999) measure. The full scale is comprised of four sub-scales; perceived enjoyment, perceived usefulness, perceived difficulty and motivation to transfer, with Warr et al. (1999) reporting reliabilities of .76, .80, .75 and .79 respectively. A shorter version of this measure was used within this research, with single items addressing each of these sub-scales (items TR1, TR2, TR3 and TR4). The single items were selected based on previous unpublished research carried out by the author, which revealed that these items consistently had the highest factor loading for each of the sub-scales. Three additional items were developed and included to assess participants' satisfaction with the training objectives and content (TR5, TR6 and TR9) as well as three items used to assess satisfaction with the method and training context (TR7, TR8 and TR10). These items were included at the request of the participating organisations as they were in line with the existing evaluations that they have in place for other internal courses. The final two items included within this measure were bespoke items created to assess the trainer's delivery (TR11) and the extent to which the training met delegate expectations (TR12). These additional items were important for evaluating the 'train the trainer' approach that is used within this research as they can help to provide an insight into the how well the

content was delivered and the way in which the course was communicated locally.

Given that the measure used here comprised a selection of items from established measures, as well as some bespoke items, it was deemed necessary to assess the structure within this research sample and to assess the reliability of this amalgamated measure. Therefore, a factor analysis was performed. To assist with the analysis and interpretation of results, the training reaction items have been coded. The coded items are shown in Table 5.11.

Table 5.11: Items used in the training reactions measure

Observed variable name	Item code
I have really enjoyed the training	TR1
The training is very relevant to my job	TR2
I found the training hard to follow	TR3
I am keen to apply what I have learned on the training	TR4
The issues were dealt with in as much depth as the course allowed	TR5
In my opinion, the planned objectives were met	TR6
The training was realistic	TR7
The training enabled me to share professional experiences with colleagues	TR8
The length of the course was adequate for the objectives	TR9
The training context was well suited to the training process	TR10
The trainer(s) were confident in their delivery	TR11
The training met my expectations	TR12

The analysis was carried out in the (univariate) normally distributed sample of 1283 leaders as previously outlined, with no missing data. Items were assessed on a 5-point scale (1 = strongly disagree to 5 = strongly agree). The mean scores on the items range from 1.86 to 4.45. Oblique rotation (direct oblimin) was used and the factor analysis was interpreted against widely accepted criteria discussed previously (see section 4.4.1). To avoid repetition, these have not been outlined here.

The exploratory factor analysis revealed a one-factor solution, and after removing an item based on the low level of variance explained by this item (i.e. poor factor loading), the one-factor solution explained 58% of the variance (see Table 5.12).

Table 5.12: Factor loadings of the training reactions measure

Item code	Factor 1 Loading
TR12	.83
TR10	.83
TR1	.80
TR7	.80
TR6	.77
TR2	.71
TR4	.71
TR5	.71
TR9	.67
TR8	.61
TR11	.59
Eigenvalue	6.38

Within this factor, the variance explained by an individual item ranged from 35% to 69% which is well above the 16% of the variance recommended by Stevens (2002). To test the one-factor solution, a confirmatory factor analysis was carried out using 'R'. Specifically, the 'lavaan' package for structural equation modelling was used (Rosseel, 2012), alongside the 'SemPlots' package (Epskamp, 2013). Robust maximum likelihood estimation was used to account for multivariate non-normality. The criteria used to assess the model fit are outlined earlier (see section 4.4.1) and have not been outlined here to avoid repetition. The confirmatory factor analysis was conducted on the full sample ($N = 1283$).

The fit indices for this model (model 1) are shown in Table 5.13. This model did not meet the model fit criteria and following an exploration of the modification indices, the decision was made to remove one item (TR2) and re-run the model. The fit indices for the revised model 2 can also be seen in Table 5.13. This resulted in a much-improved model fit with almost all indicators falling within or close to the acceptable fit criteria. It should be noted that the χ^2 score remained significant; however, a non-significant result is difficult to

obtain in samples of this size, and when taking into consideration the other indices, model 2 was deemed a good fit.

The one-factor solution (model 2) was cross-validated by performing a confirmatory factor analysis in two random samples of 50% (model 3) and 75% (model 4) taken from the existing dataset. The model fit indices for both samples are shown in Table 5.13. It was recognised that the RMSEA value was slightly elevated within the 75% cross-validation sample (model 4); however, it still fell within the acceptable levels (MacCallum et al., 1996) and considering the other model fit indices remain relatively stable across the separate samples, model 2 can overall be deemed a good fit. The final model can be seen in Figure 5.5.

Table 5.13: Model fit statistics for the training reactions measure

Model version	χ^2	SRMR	TLI	CFI	RMSEA
1	$\chi^2 (44) = 386.49$ $p < .001$	0.04	.92	.94	.08 (LO 90 = .07, HI 90 = .08)
2	$\chi^2 (35) = 214.39$ $p < .001$	0.03	.95	.96	.06 (LO 90 = .06, HI 90 = .07)
Cross-validation model 3 (random 50% sample) $N = 642$	$\chi^2 (35) = 122.25$ $p < .001$	0.03	.95	.96	.06 (LO 90 = .05, HI 90 = .07)
Cross-validation model 4 (random 75% sample) $N = 962$	$\chi^2 (35) = 181.46$ $p < .001$	0.03	.95	.96	.07 (LO 90 = .06, HI 90 = .08)

In summary, in this sample of leaders ($N = 1283$), the measure of training reactions resulted in a one-factor solution, comprised of ten items ($\alpha = .92$).

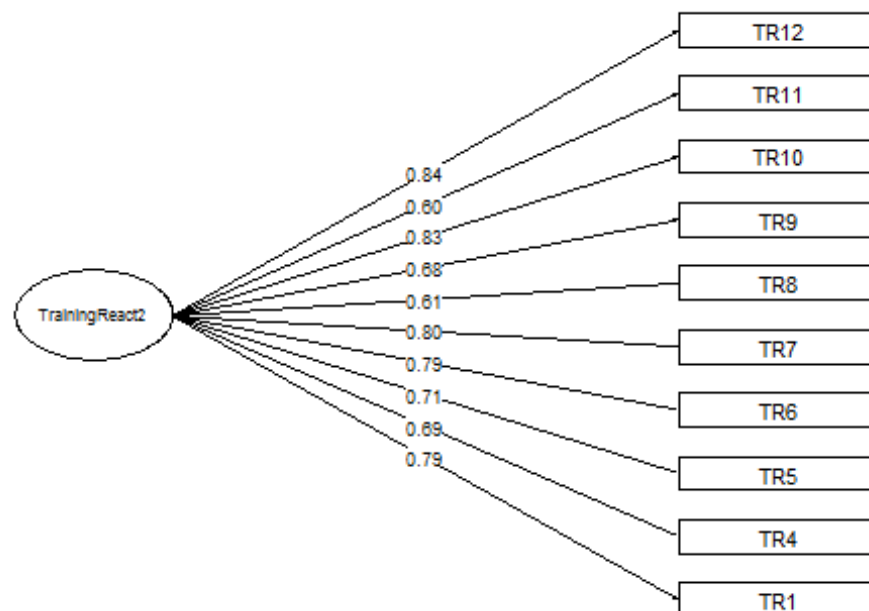


Figure 5.5: Model of training reactions

Notes: TrainingReact2 = Training reactions

5.4.4 Transfer of training

Transfer of training was measured using an adapted version of the Learning Transfer System Inventory (LTSI) developed by Holton et al. (2000). The LTSI measure originally included 112 items but this has since been reduced to 68 items, falling into 16 factors. Holton et al. (2000) report good reliability across the factors ($\alpha = .60$ to $.70$). The LTSI follows the work by Noe & Schmitt (1986) and outlines three construct domains; motivation, the work environment and ability/enabling elements. Time constraints meant that this measure could not be used in its entirety within the follow-up questionnaire and instead 15 items were selected, with an equal number of items selected for each of the construct domains. Items were selected based on previous unpublished research carried out within the healthcare sector which demonstrated that these items had the highest factor loadings and were important for the internal reliability of the scale. This adapted measure incorporated items relating to each of the three construct domains; the ability/enabling scales (e.g. opportunity and capacity to use the training), motivation to transfer scales (e.g. performance self-efficacy and performance expectations) and scales relating to the work environment (e.g. supervisor support, performance coaching and peer support).

In keeping with the recommendations of Holton et al. (2000), the measure was used as part of the follow-up assessment. The total sample was made up of 212 leaders with no missing data. All items were measured on a 5-point scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The mean scores of the items range from 2.74 to 3.88.

To validate this adapted measure and assess its psychometric properties, exploratory and confirmatory factor analyses were carried out. To assist with the analysis and interpretation of results, the transfer of training items have been coded as shown in Table 5.14.

Prior to conducting the exploratory factor analysis, the data was reviewed to check the assumption of univariate normal distribution and the

output showed skew was within the acceptable limits of ± 2 (George & Mallery, 2003) and kurtosis was within the acceptable limits of ± 5 (Kendall & Stuart, 1958).

Table 5.14: Items used in the transfer of training measure

Observed variable name	Item code
What I learned from the training course has helped me in my job in terms of managing staff	Transf1
I have applied what I have learned on this course about supportive manager behaviour to my job	Transf2
Looking back, this course was closely related to my job needs	Transf3
I have received support from my manager/supervisor since attending the course to help me apply my skills	Transf4
This course has been of great practical value to me in terms of managing staff	Transf5
I have received support from my peers/colleagues since attending the course to help me apply my skills	Transf6
Before the training, I had a good understanding of how it would support my job-related development	Transf7
My workload allows me time to try the new things I have learned in training	Transf8
Employees in this Trust receive praise/reward when they apply newly learned skills on the job	Transf9
My work colleagues have helped me to use the skills that I learned in this training	Transf10
My line manager/supervisor has encouraged me to apply the learning from the training to my job	Transf11
The trainer's style helped me to apply my learning on the job	Transf12
The training has helped me to perform better in my job role	Transf13
I received feedback from my line manager/supervisor about how well I was doing with the new training	Transf14
Overall, I am confident in my ability to use the learning from this training on the job	Transf15

Oblique rotation (direct oblimin) was used and the factor analysis was interpreted against widely accepted criteria that have been outlined previously (see section 4.4.1). To avoid repetition, these have not been outlined here. Items that did not meet the criteria were removed, resulting in a two-factor solution, explaining 69% of the variance (see Table 5.15).

Table 5.15: Factor loadings of the transfer of training measure

Item code	Factor 1	Factor 2
Transf1	.86	.03
Transf2	.83	.01
Transf12	.79	.09
Transf13	.79	.05
Transf5	.79	.12
Transf15	.77	.02
Transf3	.75	.08
Transf11	.15	.93
Transf4	.02	.85
Transf6	.15	.71
Transf14	.01	.66
Transf10	.26	.55
Eigenvalue	6.12	2.15

The variance explained by an item ranged from 56% to 74% in factor 1, and 30% to 86% in factor 2, which is well above the 16% of the variance recommended by Stevens (2002). Factor 1 is made up of seven items ($\alpha = .93$) and represents the application of the learning to the job role, whereas factor 2 is made up of five items ($\alpha = .87$) and represents the post-training support received. Although this differs to the factor structure proposed in the original development of the LTSL, it relates to two of the previously established construct domains (i.e. the work environment; including support, and ability, including the opportunity to apply learning) identified by Holton et al. (2000).

It should be noted that whilst ideally this two-factor solution would be validated using confirmatory factor analysis techniques, this was not recommended due to the smaller sample size for the follow-up evaluation data ($N = 212$). This is only just within the acceptable limits of the minimum sample size required for structural equation modelling (Kline, 2015). However, the most appropriate sample size will also depend on the number of parameters and the complexity of the model. A small sample size can result in low power; the probability of rejecting a null hypothesis when the null hypothesis is false (Cohen & Lea, 2004), and subsequently reduces confidence in the interpretation of the results. Given the fact that the sample size at follow-up

only just met the minimum requirements before any consideration of the number of parameters, it was not deemed appropriate to carry out a confirmatory factor analysis. The two-factor solution outlined from the exploratory factor analysis was accepted and is subsequently used within this research.

5.5 Research questions and hypotheses

The aim of the present chapter is to explore and demonstrate the impact of a scenario-based training intervention that adopts a social cognitive approach to understanding leadership. The training intervention aims to promote awareness (and subsequent demonstration) of supportive leadership behaviours and increase leader self-efficacy in relation to a range of common leadership scenarios. Specifically, and based upon the literature review within the first two chapters, the data was explored in relation to the following three research questions and the specific hypotheses outlined below:

Research question 1: Can leaders be trained to have greater awareness of the supportiveness of different behaviours?

- Leaders will have greater awareness of the supportiveness of (H1) democratic leadership behaviours, (H2) performance/target-driven behaviours and (H3) behaviours associated with good self/other awareness following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.

Research question 2: Does leaders' self-efficacy to deal with common leadership scenarios change following attendance at a scenario-based leadership training intervention?

- Leaders will have higher levels of self-efficacy to manage (H1) repeated short-term sickness absence, (H2) organisational change, (H3) aggressive behaviour towards their staff and (H4) poor

communications, following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.

Research question 3: What are the predictors of the transfer of training?

- (H1) Leaders' post-course self-efficacy, (H2) their application of the learning, (H3) the support they receive post-training and (H4) the interaction between post-training support and application of the learning will predict leaders' self-efficacy levels 6 months post-training, above and beyond individual characteristics (age, sex) and pre-course self-efficacy levels.

5.6 Data screening

As established within the previous study, prior to conducting any analysis it is necessary to consider the structure of the data and the assumptions that must be met to come to a decision about the most relevant statistical tests to perform. This includes testing the assumption of independence of observations which underpins ordinary least squares regression techniques (Peugh, 2010). The data used within this study has been collected through pre-course, post-course and follow-up evaluation questionnaires that were distributed to leaders from across 15 different healthcare organisations. Therefore, it is acknowledged that leaders (i.e. level 1) may be nested within organisations (i.e. level 2) and it might be expected that scores from leaders within organisations may show greater similarity than scores from leaders in other organisations. This provides the rationale for statistically testing for nested data within this sample and to establish whether there is a need for multi-level modelling. The level 1 data was group-mean centred to help reduce multicollinearity; the rationale and process for this type of centring has not been outlined here to avoid repetition, but can be found within the previous study (see section 4.6). 'R' statistical programming language and software environment was used, with the 'nlme' package installed (Pinheiro et al., 2016).

As previously outlined, the process of testing for nested data is comprised of fitting an intercept-only baseline model and a model that allows intercepts to vary across organisations. The fit of both models is then compared by testing the change in the -2log-likelihood and reporting the chi-square distribution (Field et al., 2012). A significant *p*-value is indicative of a model that has significantly improved, whereas a non-significant value suggests that there is little variation across the organisations and that multi-level modelling may not be necessary (Field et al., 2012). The results of the test for nested data in the pre-course, post-course and follow-up data are shown in Table 5.16.

Table 5.16: Assessing the need for multi-level modelling

Variable	χ^2	df change	<i>p</i> - value
Pre-course democratic leader behaviour (F1)	0.33	1	0.56
Pre-course performance/target-driven behaviour (F2)	1.17	1	1.00
Pre-course self/other awareness (F3)	1.17	1	1.00
Post-course democratic leader behaviour (F1)	1.72	1	1.00
Post-course performance/target-driven behaviour (F2)	1.15	1	1.00
Post-course self/other awareness (F3)	1.63	1	1.00
Follow-up democratic leader behaviour (F1)	1.30	1	1.00
Follow-up performance/target-driven behaviour (F2)	1.51	1	1.00
Follow-up self/other awareness (F3)	1.17	1	1.00
Pre-course leader self-efficacy (sickness absence)	1.18	1	1.00
Pre-course leader self-efficacy (org change)	1.18	1	1.00
Pre-course leader self-efficacy (aggressive behaviour)	1.18	1	1.00
Pre-course leader self-efficacy (poor comms)	1.18	1	1.00
Post-course leader self-efficacy (sickness absence)	1.18	1	1.00
Post-course leader self-efficacy (org change)	1.18	1	1.00
Post-course leader self-efficacy (aggressive behaviour)	1.18	1	1.00
Post-course leader self-efficacy (poor comms)	1.18	1	1.00
Post-training reactions	2.38	1	0.12
Follow-up leader self-efficacy (sickness absence)	1.17	1	1.00
Follow-up leader self-efficacy (org change)	9.66	1	1.00
Follow-up leader self-efficacy (aggressive behaviour)	7.72	1	1.00

Variable	χ^2	df change	p- value
Follow-up leader self-efficacy (poor comms)	7.12	1	1.00
Follow-up application of learning (F1)	1.17	1	1.00
Follow-up transfer support (F2)	1.17	1	1.00

The non-significant *p*-values indicate that the intercepts do not vary significantly across organisations and it was therefore deemed unnecessary to carry out multi-level analysis.

5.7 Training reactions

Although training reactions in themselves are not necessarily a good indication of subsequent performance (Alliger et al., 1997; Van Buren & Erskine, 2002), they can provide a useful insight into how the training was received. Therefore, a brief overview of the descriptive statistics in relation to participants' reactions to the 'Supportive Leadership and Management Behaviour' SBT intervention are provided here. As outlined earlier, the training reaction items within this sample ($N = 1283$) fall into a single factor comprised of ten items, which were assessed on a scale of 1 (strongly disagree) to 5 (strongly agree).

An independent samples T-test was conducted to compare the scores (training reactions) of the initial sample ($N = 1283$) and the final matched sample at follow-up ($N = 212$). This showed no significant differences between the initial sample ($M = 4.16$, $SD = 5.90$) and the final matched sample ($M = 4.24$, $SD = 0.57$); $t(1281) = -1.63$, $p = .10$. This provided support for the equivalence of the samples.

To explore delegate reactions to the various aspects of the course, a more detailed overview of the scores for each of the items is provided in Table 5.17.

Table 5.17: Training reaction scores

Reaction Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I really enjoyed the training	0.5%	3.2%	14.3%	51.4%	30.6%
I am keen to apply what I have learned on the training	0.2%	1.3%	14.5%	47.9%	36.1%
The issues were dealt with in as much depth as the length of the course allowed	0.7%	2.7%	14.9%	55.0%	26.7%
In my opinion, the planned objectives were met	0.8%	2.0%	13.6%	53.4%	30.2%
The training was realistic	0.5%	3.4%	13.0%	54.8%	28.3%
The training enabled me to share professional experiences with colleagues	1.2%	3.4%	10.1%	41.0%	44.3%
The length of course was adequate for the objectives	2.3%	6.5%	17.0%	46.6%	27.6%
The training context was well suited to the training process	0.5%	3.2%	17.3%	53.2%	25.8%
The trainer(s) were confident in their delivery	0.3%	1.1%	6.3%	37.7%	54.6%
The training met my expectations	1.0%	4.0%	18.4%	43.9%	32.7%

Overall, the training was well received. Specifically, the percentage of respondents who agreed or strongly agreed with each training reaction statement (indicating that they had a positive reaction to this aspect of the training) is shown below;

- 92% - Trainers were confident in their delivery
- 85% - Training enabled me to share professional experiences with colleagues
- 84% - I am keen to apply what I have learned
- 84% - Planned objectives were met
- 83% - Training was realistic
- 82% - Training was enjoyable
- 82% - Issues were dealt with in as much depth as the length of the course allowed
- 79% - Training context was well suited to the training process

- 77% - Training met my expectations
- 74% - Length of the course was adequate for the objectives.

It is particularly interesting to note that 92% of participants reported that the trainers were confident in their delivery. This finding offers some initial support for the 'train the trainer' approach that was adopted within this study and suggests that trainers were given adequate information and guidance to enable them to deliver the training. In addition, the fact that 85% of participants reported feeling able to share experiences with colleagues as part of the training session is in line with the reflective and experiential learning approach that the training intervention follows.

To assess the impact of the training, a series of statistical analyses were conducted and will be discussed in the sections that follow.

5.8 Exploring the impact of training

5.8.1 Overview: Multivariate Analysis of Variance (MANOVA)

To explore the long-term impact of the training, a repeated measures (within subjects) MANOVA was carried out on the 212 cases matched across all three time points (before training, after training and at follow-up).

There are several reasons for adopting this analytical approach. Firstly, analyses that utilise a within subjects design are high in power and therefore require a smaller sample size than other designs. In addition, this type of design can be advantageous as the participants are their own controls; essentially it allows for the control of factors that cause variability between participants. Furthermore, when the dependent variables are related multivariate approaches (i.e. MANOVA) can help to reduce the familywise error rate that is associated with running multiple univariate tests. Through including the related dependent variables in one analysis, it is possible to explore the relationship between them, as well as considering the differences that might exist for a combination of variables, rather than a single variable. Subsequently,

a MANOVA has more power to detect effects than an ANOVA and was deemed the more suitable approach.

SPSS version 22.0 was used to carry out all analyses that follow.

5.8.2 Assumptions

There are several assumptions that must be met to use a repeated measures MANOVA design. The dependent variables should be measured at the continuous level. Within this data, the dependent variables were measured on a Likert-type scale, which are technically ordinal. However, as previously outlined, there is a growing body of evidence to show that where scales use five or more points, then statistically there is little difference between continuous and Likert-type data (Rhemtulla et al., 2012). Therefore, given that the measures utilised within this study adopt a 5-point scale as a minimum, this was not deemed to be an issue. It is also noted that the independent variable should have at least two matched pairs (related groups); the same participant should be present in both groups. This assumption was met as the design consisted of the same participants (leaders) completing the pre-course, post-course and the follow-up evaluation questionnaires.

The data was checked for univariate outliers using a series of boxplots. Multivariate outliers, influential observations and leverage values were also checked by reviewing Mahalanobis distance, Cook's distance and leverage values (probability values $< .001$ for Mahalanobis; Cook's distance > 1 and leverage $> .10$ were considered to be potentially problematic). The results revealed that a small number of outliers were present in the data. Cases were visually inspected to determine why they had been identified as a possible outlier. There were no apparent errors in the data and therefore the cases were deemed to reflect normal variation of the data. In this situation, the removal of outliers is a contentious issue. To help inform the decision of when to retain or remove outliers, researchers have recommended that analyses should be conducted with and without the outliers; if the results do not show any substantial difference then it is permissible to include the outliers (Kruskal,

1960a, 1960b). This approach was adopted within this research and for the specific analyses that follow, the results showed that there was little difference with and without the outliers. Therefore, the decision was made to retain the outliers, and the analyses were carried out on the full data sample ($N = 212$).

In addition, the dependent variables should have multivariate normality within groups. When using SPSS, a general indication of multivariate normality is to assess the univariate normality of the dependent variables (Field, 2013). Using this approach, the values of skewness were shown to be within the acceptable limits of ± 2 (George & Mallery, 2003), and kurtosis was within the acceptable limits of ± 5 (Kendall & Stuart, 1958). A further assumption is that there should be no multicollinearity ($< .90$) among the dependent variables (Pallant, 2007). This was checked by looking at the correlation between the dependent variables, and no issues were found.

It should also be noted that the main MANOVA is followed up by separate ANOVAs on each of the dependent variables. Therefore, it becomes necessary to test for sphericity (Field, 2013). The assumption of sphericity looks at whether there are equal variances of the differences between the conditions (i.e. the different time points). For the univariate analyses, Mauchly's test of sphericity was examined, and where a significant value was returned ($p < .05$) it was concluded that the assumption of sphericity had been violated. This was found to be the case for all subsequent analyses and so the more conservative Greenhouse-Geisser correction is reported (Field, 2013).

The researcher must also decide the most appropriate test statistic to use and report when performing a MANOVA. The Pillai-Bartlett trace test is recommended as it is robust to violations of assumptions and can prove to be powerful (Field, 2013). Therefore, this test statistic is reported in the analyses that follow.

5.8.3 Sample size

Sample size is an important consideration when performing a MANOVA; if the sample size is too small then there may not be enough power to detect effects. Subsequently, this may reduce the reliability of the findings. When using repeated measures designs, the correlations of measurements from the same participant need to be considered to determine the most appropriate sample size. To help with this, an a priori sample size analysis was conducted using the G*Power tool for statistical power analyses (Faul, Erdfelder, Buchner, & Lang, 2009). When using an alpha of .05, a power of .80, and a medium effect size, the results showed that the sample size required did not exceed 57 for the MANOVA analyses being conducted. The matched sample size across all three time points within this study exceeded this requirement ($N = 212$).

5.9 Impact of training: results

5.9.1 Research question 1

Within this section, the following research question and specific hypotheses are tested:

Research question 1: Can leaders be trained to have greater awareness of the supportiveness of different behaviours?

- Leaders will have greater awareness of the supportiveness of (H1) democratic leadership behaviours, (H2) performance/target-driven behaviours and (H3) behaviours associated with greater self/other awareness following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.

To explore the long-term impacts of the training, a repeated measures MANOVA was carried out. The results revealed a significant difference in behavioural awareness over time, $F(6, 206) = 11.39, p < .001$. A large effect size was found; partial $\eta^2 = .25$ (Cohen, 1988).

The results from the univariate tests revealed a significant time effect for awareness of the supportiveness of democratic leadership behaviours (H1); $F(1.62, 342.30) = 21.91, p < .001$. A medium effect size was found; partial $\eta^2 = .09$ (Cohen, 1988). In addition, a significant time effect was found for behaviours relating to greater self/other awareness (H3); $F(1.62, 342.19) = 28.40, p < .001$. This revealed a medium effect size; partial $\eta^2 = .12$ (Cohen, 1988). No significant time effect was found for awareness of the supportiveness of performance/target-driven behaviours (H2); $F(1.73, 364.76) = 2.01, p = .14$.

An exploration of the Bonferroni-corrected comparisons revealed that there were significant differences in awareness of democratic leadership behaviours between pre-course ($M = 6.18, SD = 0.96$) and post-course ($M = 6.44, SD = 0.77$); $p < .001$, pre-course ($M = 6.18, SD = 0.96$) and follow-up ($M = 5.95, SD = 1.20$); $p = .02$, and post-course ($M = 6.44, SD = 0.77$) and follow-up ($M = 5.95, SD = 1.20$); $p < .001$. The mean difference scores indicate that awareness of the supportiveness of democratic leadership behaviours significantly increased between pre-course and post-course, but significantly reduced between post-course and follow-up. Follow-up scores were significantly lower than pre-course levels.

In addition, there were significant differences in the perceived supportiveness of behaviours relating to greater self/other awareness between pre-course ($M = 5.83, SD = 0.95$) and post-course ($M = 6.09, SD = 0.79$); $p < .001$. There were also significant differences between pre-course ($M = 5.83, SD = 0.95$) and follow-up ($M = 5.48, SD = 1.25$); $p < .001$, and post-course ($M = 6.09, SD = 0.79$) and follow-up ($M = 5.48, SD = 1.25$); $p < .001$. The mean difference scores indicate that the perceived supportiveness of behaviours relating to self/other awareness significantly increased between pre-course and post-course, but reduced between post-course and follow-up. Follow-up scores were significantly lower than pre-course scores.

The findings provide partial support for hypotheses 1 and 3; the immediate and positive impact of the training on leaders' awareness of the

supportiveness of democratic leadership behaviours and behaviours relating to self/other awareness is evident. However, the follow-up scores show that leaders' awareness of the supportiveness of these behaviours is not sustained over time.

Results are presented in Table 5.18 and are displayed graphically in Figure 5.6.

Table 5.18. Descriptive statistics of behavioural awareness scores over time

Variables	Pre-course		Post-course		Follow-up	
	Mean	SD	Mean	SD	Mean	SD
Democratic leadership behaviour	6.18	0.96	6.44	0.77	5.95	1.20
Performance/ target-driven behaviour	4.19	1.14	4.22	1.36	4.37	1.23
Self/other awareness	5.83	0.95	6.09	0.79	5.48	1.25

Notes: *N* = 212, Scale: 1 = very unsupportive, 7 = very supportive

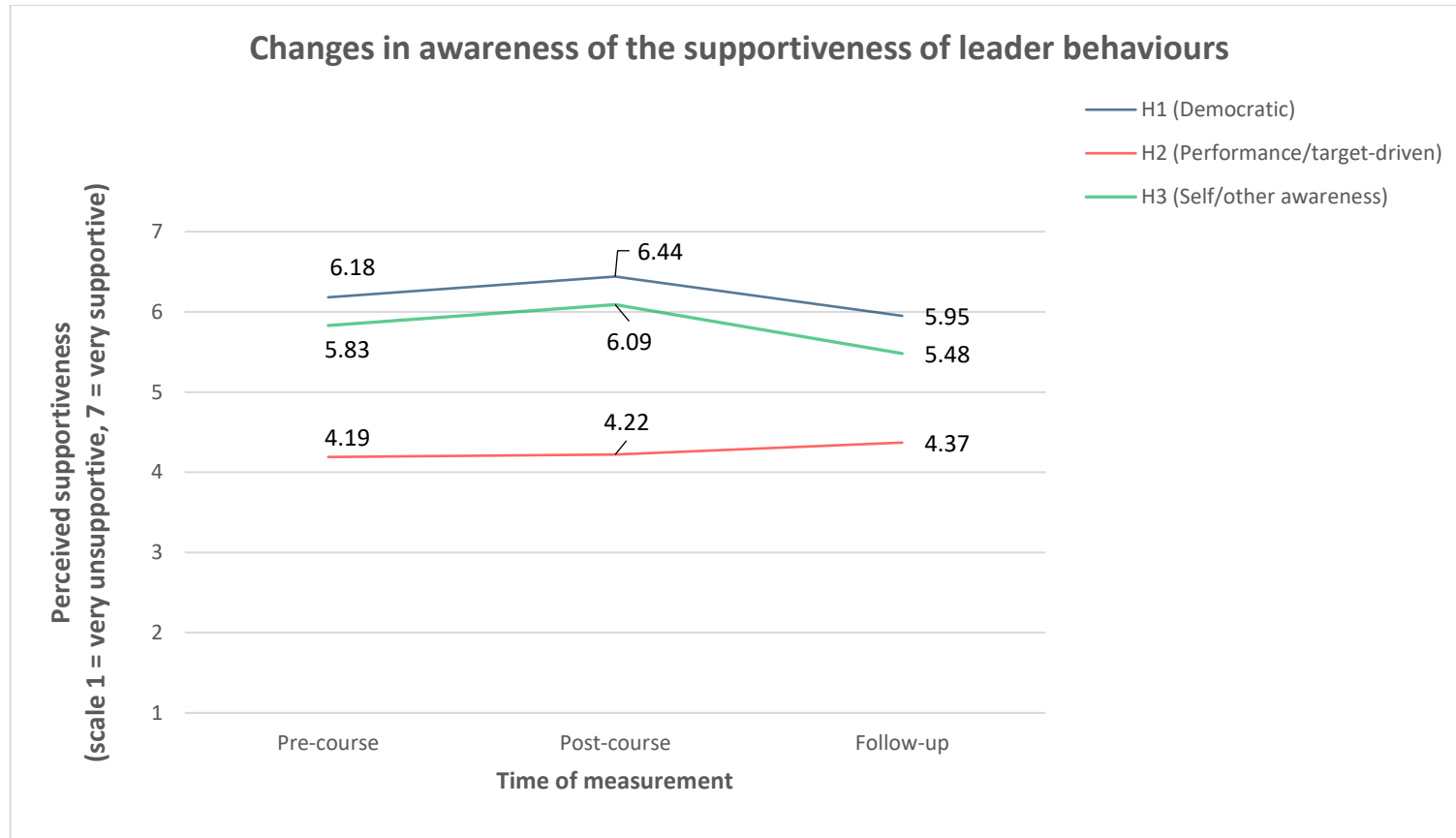


Figure 5.6: Changes in behavioural awareness

5.9.2 Research question 2

Within this section, the following research question and specific hypotheses are tested:

Research question 2: Does leaders' self-efficacy to deal with common leadership scenarios change following attendance at a scenario-based leadership training intervention?

- Leaders will have higher levels of self-efficacy to manage (H1) repeated short-term sickness absence, (H2) organisational change, (H3) aggressive behaviour towards their staff and (H4) poor communications following their attendance at the scenario-based 'Supportive Leadership and Management Behaviour' training intervention.

The hypotheses tested as part of this research question are based on the specific scenarios that were used to assess leader self-efficacy within this sample. Although these four scenarios were shown to fall into one overall factor of 'leader self-efficacy' (see section 5.4.2), there is value at looking at the differences in leader self-efficacy for each individual scenario over time. Therefore, the four scenarios (items) are included as dependent variables within this MANOVA. Each scenario is described in detail earlier within the development of measures, and are briefly summarised below:

- Managing a member of staff who has taken repeated short-term sickness absence with no apparent cause (sickness absence).
- Dealing with the impact of organisational change on your team (organisational change).
- Dealing with a situation where a member of the public has behaved in an aggressive manner towards a member of your staff (aggressive individual).
- Managing poor communications (over-reliance on emails) between members of staff within your team (poor communications).

To explore the long-term impacts of the training, a repeated measures MANOVA was carried out. The results revealed a significant difference in leaders' self-efficacy over time, $F(8, 204) = 31.02, p < .001$. A large effect size was found; partial $\eta^2 = .50$ (Cohen, 1988).

The results from the univariate ANOVAs revealed a significant time effect for leaders' self-efficacy to manage repeated short-term sickness absence (H1); $F(1.85, 391.23) = 54.39, p < .001$; partial $\eta^2 = .21$. In addition, there was a significant time effect for leaders' self-efficacy in relation to organisational change (H2); $F(1.83, 386.18) = 64.38, p < .001$; partial $\eta^2 = .23$. The results revealed a significant time effect for leaders' self-efficacy in relation to managing aggressive behaviour towards staff (H3); $F(1.74, 367.55) = 40.97, p < .001$; partial $\eta^2 = .16$. Finally, a time effect was found for leaders' self-efficacy in relation to managing poor communications (H4); $F(1.88, 396.19) = 60.40, p < .001$; partial $\eta^2 = .22$. The effect sizes reveal large effects across all tests (Cohen, 1988).

Bonferroni-corrected comparisons were explored. This revealed that there were significant differences ($p < .001$) in leaders' self-efficacy to manage sickness absence between pre-course ($M = 6.83, SD = 2.04$) and post-course ($M = 7.92, SD = 1.60$), and pre-course ($M = 6.83, SD = 2.04$) and follow-up ($M = 7.77, SD = 1.87$). The mean difference scores indicate that self-efficacy perceptions were significantly higher at post-course and follow-up than pre-course levels. There was no significant difference between post-course ($M = 7.92, SD = 1.60$) and follow-up scores ($M = 7.77, SD = 1.87$), which indicates that leaders' post-training levels of self-efficacy to manage repeated sickness absence was maintained over time.

There were significant differences ($p < .001$) in self-efficacy perceptions in relation to managing organisational change between pre-course ($M = 6.37, SD = 1.96$) and post-course ($M = 7.72, SD = 1.44$); post-course ($M = 7.72, SD = 1.44$) and follow-up ($M = 7.21, SD = 1.93$); and pre-course ($M = 6.37, SD = 1.96$) and follow up ($M = 7.21, SD = 1.93$). The mean difference scores indicate that self-efficacy perceptions in relation to managing organisational change

significantly increased between pre-course and post-course, but significantly reduced between post-course and follow-up. However, self-efficacy levels at follow-up remained significantly higher than pre-course levels.

An exploration of leaders' self-efficacy for dealing with aggression towards staff revealed that there were significant differences ($p < .001$) in self-efficacy perceptions between pre-course ($M = 7.27, SD = 1.68$) and post-course ($M = 8.06, SD = 1.40$), and pre-course ($M = 7.27, SD = 1.68$) and follow-up ($M = 8.08, SD = 1.51$). There was no significant difference between post-course ($M = 8.06, SD = 1.40$) and follow-up scores ($M = 8.08, SD = 1.51; p = 1.00$). The mean difference scores indicate that self-efficacy perceptions in relation to dealing with aggressive behaviour were significantly higher at post-course and follow-up than pre-course levels. The findings also suggest that post-course self-efficacy levels were maintained over time.

Finally, there were significant differences ($p < .001$) in leaders' self-efficacy to manage poor communications between pre-course ($M = 6.93, SD = 1.55$) and post-course ($M = 7.97, SD = 1.33$), and between pre-course ($M = 6.93, SD = 1.55$) and follow up ($M = 7.81, SD = 1.46$). The mean difference scores indicate that self-efficacy perceptions were significantly higher at post-course and follow-up than pre-course levels. However, there was no significant difference between post-course ($M = 7.97, SD = 1.33$) and follow-up scores ($M = 7.81, SD = 1.46; p = .13$), which indicates that leaders' post-training levels of self-efficacy to manage communications was maintained over time.

In summary, the results show that leaders' self-efficacy beliefs in relation to four common leadership scenarios or 'problems' significantly increase post-training and are maintained over time. Specifically, the findings indicate that following their attendance at the training intervention, leaders feel more confident in their ability to manage situations involving members of staff who have taken repeated short-term sickness absence, as well as dealing with the challenges surrounding organisational change, aggressive members of the public and issues with poor communications.

The findings support the view that the training intervention is having a positive and sustained impact on leader self-efficacy. This is in line with Bandura's (1977a, 1997) self-efficacy theory and the idea that task mastery (i.e. applying their learning to similar real-life scenarios back in their job role) is important for the creation and maintenance of self-efficacy beliefs. The findings will be discussed in more detail later.

Results are presented in Table 5.19 and are displayed graphically in Figure 5.7.

Table 5.19: Descriptive statistics for self-efficacy scores over time

Variables	Pre-course		Post-course		Follow-up	
	Mean	SD	Mean	SD	Mean	SD
Self-efficacy: sickness absence	6.83	2.04	7.92	1.60	7.77	1.87
Self-efficacy: organisational change	6.37	1.96	7.72	1.44	7.21	1.93
Self-efficacy: aggressive individual	7.27	1.68	8.06	1.40	8.08	1.51
Self-efficacy: poor communications	6.93	1.55	7.97	1.33	7.81	1.46

Notes: *N* = 212, Scale: 0 = not at all confident to 10 = completely confident

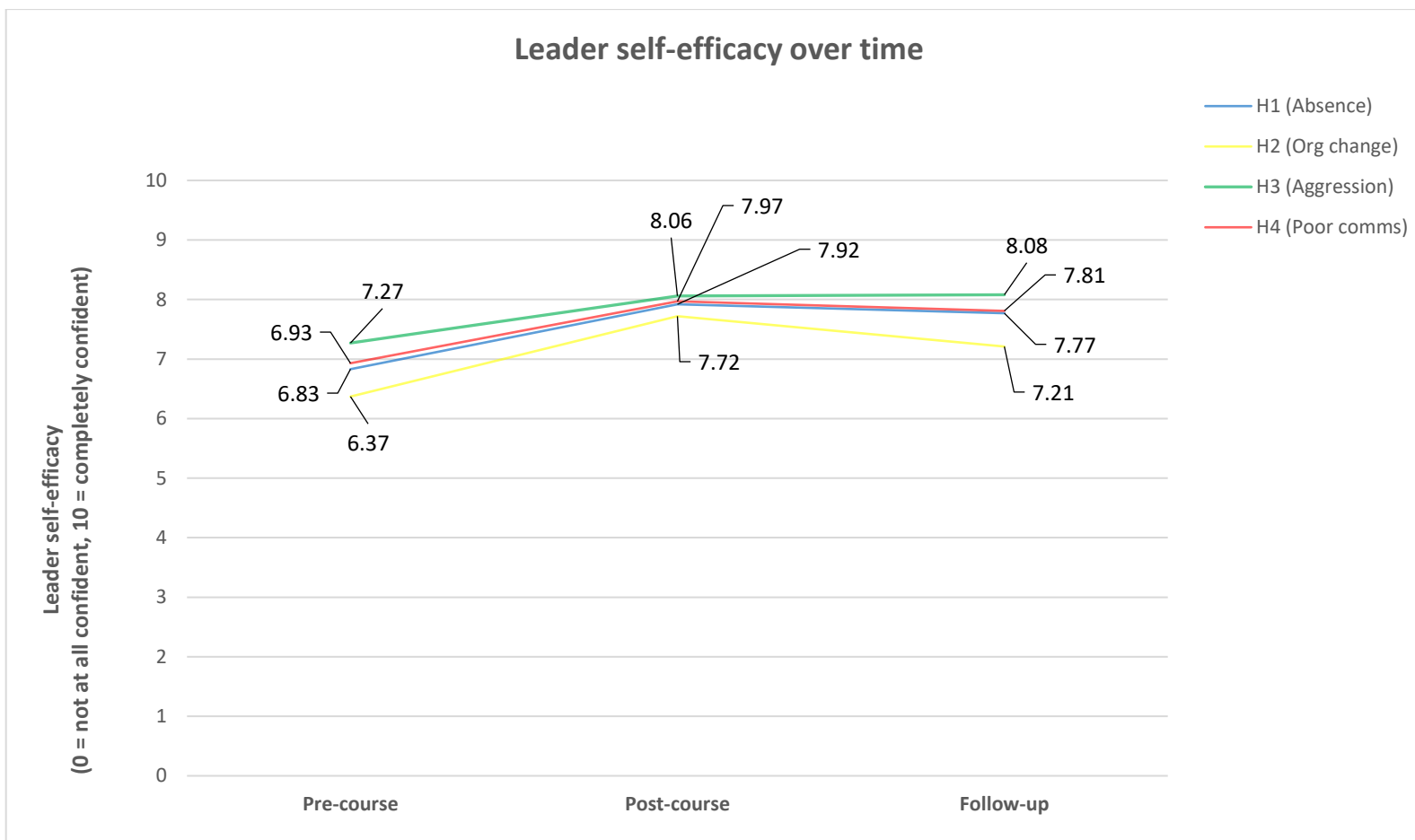


Figure 5.7: Impact of training on leader self-efficacy

5.10 Predictors of training transfer

5.10.1 Overview: Hierarchical Multiple Linear Regression (HMLR)

To test some of the variables that may influence the transfer of training, a HMLR analysis was carried out. This statistical approach allows the researcher to explore multiple predictors of an outcome. Tabachnick and Fidell (2013) argue that using this technique, it is possible to assess the importance of each predictor (i.e. each independent variable) for explaining an outcome (a dependent variable). Essentially, through the *b*-values, it is possible to see the extent that each predictor affects the outcome when other predictor effects are held constant. When using this approach, a decision must be made about the way in which variables are entered into the model. HMLR was used to distinguish between the main predictor variables of interest and the control variables. Within the analyses that follow, the control variables were entered into step 1, and predictors were entered into the model in step 2, with the interaction term entered into step 3. The data was analysed using SPSS version 22.0.

The dependent variable was leaders' self-efficacy measured at follow-up (6 months post-training). As outlined in section 5.4.2, leaders' self-efficacy is measured through responses to four scenarios, which combine to form a single factor of overall self-efficacy. For the analysis that follows, leaders' overall self-efficacy is assessed using this one-factor solution. The analysis looks to determine whether leaders' overall self-efficacy 6 months post-training could be predicted by post-course self-efficacy levels, the level of post-training support received from their colleagues and supervisors and the application of learning.

The decision to focus solely on leaders' self-efficacy as the dependent variable for this analysis was partly based on the findings from the repeated measures MANOVA in section 5.9. The results showed that leaders' self-efficacy levels were found to be significantly higher immediately post-training, and that this was sustained over time. Therefore, it is of interest to understand

what helps to predict this successful transfer. Conversely, the three leadership behavioural factors assessed within section 5.9 showed the opposite pattern of results; awareness of the supportiveness of these behaviours was not sustained over time and fell significantly below the baseline measure for two of the behavioural categories assessed. As a result, attempts to explore the predictors of the positive transfer of training for these outcomes was not deemed appropriate.

Furthermore, self-efficacy has been recognised as a key personal component which underlies the social cognitive perspective of leadership advocated throughout this research. As outlined earlier, self-efficacy has health and performance implications both for the leader and the staff they oversee (Walumbwa et al., 2010b; Woolley et al., 2011). Therefore, self-efficacy has been identified as a key criterion for evaluating leadership training interventions against and understanding how it can be maintained over time becomes an important research question.

5.10.2 Assumptions

To begin with, the assumptions for carrying out the HMLR analysis were tested. The sample consisted of 212 leaders, with no missing data reported. When carrying out any form of regression analysis, there should be no significant outliers, influential observations or high leverage points. This was checked using Mahalanobis distance, Cook's distance and reviewing leverage values to determine acceptable values within this model (probability values < .001 for Mahalanobis; Cook's distance > 1 and leverage > .10 were considered to be potentially problematic). The results revealed no extreme univariate outliers, and no multivariate outliers. Therefore, the analysis was run on the full sample ($N = 212$).

Normality was assessed, and skew was found to be within the acceptable limits of ± 2 (George & Mallery, 2003), and kurtosis was within the acceptable limits of ± 5 (Kendall & Stuart, 1958). The histogram and probability plots were also reviewed to check for normality of residuals and although some deviations

from normality were found, these were judged together with other checks and overall the variables were considered suitable. In addition, the residual scatterplots were checked for homoscedasticity, and this revealed no cause for concern. The scatterplots of standardised residuals showed that the data met the assumption of linearity. Multicollinearity was assessed using the generally accepted criteria for tolerance scores (> 0.1) and VIF scores (< 10), and results showed there were no concerns about the predictor variables correlating too highly (Pallant, 2007). To check for the independence of errors, the Durbin-Watson test was assessed which revealed a value of 2.09; this was within the generally accepted range of > 1 and < 3 (Field, 2013). Regression analyses assume that the outcome variable is continuous, whereas the variable used here is based on a Likert-type scale, which is technically ordinal. However, researchers have demonstrated that statistically there is little difference between this and true continuous interval data when the response scales have five or more points (Rhemtulla et al., 2012). The measure of self-efficacy uses an 11-point scale and therefore this could be treated as continuous. An exploration of the descriptive statistics showed that the data met the assumptions of non-zero variances.

5.10.3 Sample size

A general rule of thumb for sample size when testing an overall model is $> 50 + 8k$, where k is the number of independent variables or $104 + k$ if testing the individual predictors (Green, 1991). It should be noted at this stage that in addition to the three main predictors (post-training self-efficacy, application of the learning and post-training support received), gender, age and pre-training self-efficacy scores were added as control variables in order to assess whether the predictor variables of interest made a significant contribution to the model and improved the prediction. In addition, the interaction between post-training support and application of the learning was also added in step 3. Considering all predictors, the sample used within this study ($N = 212$) exceeded both

criteria of what is deemed to be an acceptable sample size and so it was possible to conduct analysis at both levels.

5.11 Training transfer: results

5.11.1 Research question 3

Within this section, the following research question and specific hypotheses outlined below are tested:

Research question 3: What are the predictors of the transfer of training?

- (H1) Leaders' post-course self-efficacy, (H2) their application of the learning, (H3) the support they receive post-training and (H4) the interaction between post-training support and application of the learning will predict leaders' self-efficacy levels 6 months post-training, above and beyond individual characteristics (age, sex) and pre-course self-efficacy levels.

Table 5.20 reveals the correlations between variables. There were significant correlations between pre-training self-efficacy, post-training self-efficacy and self-efficacy levels at follow-up. In addition, relationships were found between gender, age and self-efficacy; age was shown to correlate significantly with pre-training, post-training and follow-up self-efficacy levels, whereas gender was shown to correlate significantly with post-training self-efficacy. However, contrary to what was expected, pre-training, post-training and follow-up self-efficacy scores did not correlate significantly with the transfer factors. These relationships will be explored further within the HMLR analysis that follows.

Table 5.20: Correlation analysis

Variables	Age	Gender	Pre-training self-efficacy	Post-training self-efficacy	Follow-up self-efficacy	Application of learning	Post-training support
Age	1.00						
Gender	.17*	1.00					
Pre-training self-efficacy	.14*	.03	1.00				
Post-training self-efficacy	.14*	.14*	.73**	1.00			
Follow-up self-efficacy	.24**	.07	.56**	.54**	1.00		
Application of learning	.03	.01	-.05	.12	.11	1.00	
Post-training support	-.10	.06	-.11	-.01	-.00	.46**	1.00

Note: $N = 212$ * Correlation significant at the .05 level ** Correlation significant at the .01 level

HMLR analysis was used to test if leaders' post-course self-efficacy, the application of their learning, and the support received post-training predicted their overall self-efficacy levels at follow-up (6 months post-training). As previously outlined, the model contained seven independent variables; age, gender and pre-training self-efficacy scores were entered into step 1, and the main effect variables of post-training self-efficacy scores, application of the learning and post-training support were entered into step 2. In step 3, the interaction of post-training support and application of the learning was entered, to assess whether the application of the learning is dependent on whether the individual had support from peers and managers back in the workplace. These variables were centred before being used in the regression analysis; centring helps with interpretation and can address issues of multicollinearity (Tabachnick & Fidell, 2013). Essentially, the process transforms scores so they are centred around the mean of zero. This is achieved by subtracting the mean score for each, before multiplying them together.

As shown in Table 5.21, control variables in step 1 accounted for 34% of the variance for leader self-efficacy scores 6 months post-training, and in step 2 this increased so that 38% of the variance was accounted for ($\Delta R^2 = .04$, $p = .004$, $f^2 = .07$). The value for Cohen's f^2 indicates that the effect size is small. The interaction term added in step 3 had no significant contribution to the model ($\Delta R^2 = .00$, $p = .33$), and the overall model accounted for 39% of the variance; $F(7, 204) = 18.42$, $p < .001$. Upon examination of the standardised beta values it was evident that in the overall model, three predictors were significant; pre-training self-efficacy levels, age and post-training self-efficacy levels. The positive b -values indicate that the higher leaders' self-efficacy levels before training, the higher their self-efficacy levels at follow-up. Furthermore, the greater leaders' post-course self-efficacy levels, the greater their self-efficacy scores at follow-up (6 months post-training). Finally, age was also shown to be a significant predictor, with greater age predicting greater self-efficacy levels at follow-up.

Table 5.21: HMLR analysis

Predictors	<i>B</i>	<i>SE B</i>	β	<i>T</i>
Step 1				
Constant	10.51	2.34		4.50
Pre-training self-efficacy	0.53	0.06	.54**	9.47
Age	0.12	0.04	.16*	2.82
Gender ^a	0.44	0.87	.03	0.50
Step 2				
Constant	6.83	2.61		2.61
Pre-training self-efficacy	0.37	0.08	.37**	4.46
Age	0.11	0.04	.16*	2.80
Gender ^a	-0.03	0.87	-.00	-.04
Post-training self-efficacy	0.28	0.10	.24*	2.85
Application of learning (centred)	0.11	0.09	.08	1.34
Post-training support (centred)	0.03	0.10	.02	0.31
Step 3				
Constant	7.09	2.63		2.70
Pre-training self-efficacy	0.37	0.08	.37**	4.47
Age	0.11	0.04	.15*	2.72
Gender ^a	-0.02	0.87	-.00	-.02
Post-training self-efficacy	0.27	0.10	.23*	2.76
Application of learning (centred)	0.16	0.10	.12	1.64
Post-training support (centred)	0.03	0.10	.02	0.28
Application of learning (centred)*Post-training support (centred)	0.01	0.02	.06	0.98

Note: ^amales = 0, females = 1; $R^2 = .34$ for step 1, Adjusted $R^2 = .33$, $R^2 = .38$ for step 2, Adjusted $R^2 = .37$, $\Delta R^2 = .04$ for step 2 and .00 for step 3, * $p < .05$ ** $p < .001$

5.12 Summary of findings

Overall, the results of this study show:

1. Partial support for research question 1 (exploring whether leaders can be trained to have greater awareness of the supportiveness of different behaviours): hypotheses 1 and 3 were partially supported.
2. Support for research question 2 (exploring whether leaders' self-efficacy to deal with common leadership scenarios changes following attendance a scenario-based leadership training intervention): hypotheses 1, 2, 3 and 4 were all supported.
3. Partial support for research question 3 (exploring the factors that influence the transfer of training): hypothesis 1 was supported. In addition, and as predicted, the main predictors in step 2 were shown to significantly increase the variance explained in self-efficacy scores 6 months post-training over and above the control predictors entered in step 1.

Each of these findings will be discussed briefly in the section that follows.

5.13 Discussion

The objective of this chapter has been to evaluate the impact of a scenario-based leadership training intervention which promotes a social cognitive approach to leadership, and to identify the factors that predict the transfer of leaders' self-efficacy beliefs back in the workplace. Specifically, it looks to understand whether participation in the training intervention can increase awareness of the supportiveness of various leadership behaviours and increase self-efficacy for dealing with four common leadership scenarios within healthcare settings. Three key research questions were explored, with ten hypotheses examined. Table 5.22 summarises the hypotheses tested and the results.

Table 5.22: Results

Research question	Hypothesis	Result
1	H1: Leaders will have greater awareness of the supportiveness of democratic leadership behaviours following the training intervention	Partial support
1	H2: Leaders will have greater awareness of the supportiveness of performance/target-driven leadership behaviours following the training intervention	Not supported
1	H3: Leaders will have greater awareness of the supportiveness of behaviours associated with self/other awareness following the training intervention	Partial support
2	H1: Following attendance at the training course, leaders will have higher levels of self-efficacy to manage repeated short-term sickness absence amongst staff	Supported
2	H2: Following attendance at the training course, leaders will have higher levels of self-efficacy to manage the challenges of organisational change	Supported
2	H3: Following attendance at the training course, leaders will have higher levels of self-efficacy to manage situations involving aggressive behaviour towards their staff	Supported
2	H4: Following attendance at the training course, leaders will have higher levels of self-efficacy to manage poor communications amongst staff	Supported
3	H1: Leaders' levels of self-efficacy immediately post-training will predict their self-efficacy levels 6 months after training	Supported
3	H2: Leaders' application of the learning will predict their self-efficacy levels 6 months after training	Not supported
3	H3: The support that leaders receive from their colleagues and supervisors post-training will predict their self-efficacy levels 6 months after training	Not supported
3	H4: The interaction between the support that leaders receive from their colleagues and supervisors post-training and the application of learning will predict their self-efficacy levels 6 months after training	Not supported

The findings showed partial support for two of the hypotheses tested as part of research question 1 (H1 and H3), which explored whether awareness of the supportiveness of a range of leadership behaviours could be increased following participation in the one-day leadership training intervention. Specifically, the results revealed that both democratic leadership behaviours and behaviours relating to self/other awareness were seen to be more supportive immediately after training compared to pre-training (baseline) scores. However, this finding was not replicated when looking at the follow-up scores (6 months post-training). The analyses revealed that the scores for these behavioural categories at the follow-up assessment were significantly lower than the post-training and pre-training scores, indicating a substantial shift in the perceived supportiveness of these behaviours. The scores for performance/target-driven behaviours (H2) did not significantly differ over time; suggesting that the training had no impact on the perceived supportiveness of these leadership behaviours.

On the surface, this may appear to suggest that the training has a damaging long-term impact, as 6 months after their attendance at the course leaders' awareness of the behaviours that make for a 'supportive' leader fall below baseline levels. However, there are several possible alternative explanations for this finding that warrant further research. One possible explanation is that a 'recalibration' effect may have taken place. This occurs where there is no common metric and the standard of the measurement dimensions being assessed does not remain stable over the time points it is assessed (Cronbach & Furby, 1970). The pre-training evaluation requires leaders to make a judgement on how supportive or unsupportive they see the various leadership behaviours to be without having a good understanding of what 'supportive' or 'unsupportive' means. Essentially, they come to the training with their own theory about what is meant by leader 'supportiveness' and it is only after going through the training intervention that they are given an accurate reflection of what this means. Arguably, if the leaders retrospectively provided pre-training scores of how supportive or unsupportive

they considered these behaviours to be once they had been through the training process, their scores may be lower than the pre-training scores used within this analysis. The training itself takes them through a process where they develop an awareness of what is meant by 'supportive leadership behaviour' and the impact that these behaviours can have and brings this to the forefront of their minds. Therefore, it is possible that whilst their immediate post-training scores accurately reflect the positive shift in awareness of the supportiveness of these behaviours, their pre-training scores may not be a true indication of their awareness at that time. Instead, their pre-training awareness of supportive and unsupportive behaviours may in fact be lower than reported and more in line with the follow-up scores.

Whilst this can only be speculated at this stage, the inclusion of a retrospective assessment of the supportiveness of these behaviours has been recommended by the author and will be utilised as part of the continuous evaluation of the training intervention to evaluate whether this explanation can be substantiated by evidence. Evidence of a recalibration effect may still lead to the conclusion that the positive impact of the training on the awareness of supportive and unsupportive leader behaviours is not sustained over time. However, it may show that follow-up scores return to baseline (pre-training) levels, as opposed to falling below baseline.

Another explanation is that leaders' awareness of the supportiveness of these behaviours at the follow-up assessment will be influenced by their post-training environment and the behaviours modelled by their own leaders. At the follow-up assessment, leaders may evaluate and judge the behaviours to be less supportive than their pre-training assessment because the accepted leadership behaviours within their organisation provide a contrast against which they judge the behaviours against. Essentially, the training may help to bring these supportive behaviours to their attention, but if more autocratic leader behaviours are seen to be positively reinforced back in the workplace, then this contrast results in the behaviours being deemed less supportive than their initial pre-training assessment.

The lack of significant change in the perceived supportiveness of performance/target-driven behaviours immediately after training is not entirely unexpected. Although the training intervention aimed to make leaders more aware of how behaviours such as these could be both supportive and effective, leaders within healthcare settings are presented with seemingly conflicting targets and goals. For many 'frontline' staff, their primary focus and goal is to provide the highest possible level of patient care, and although this is also echoed by the organisation's espoused values, this may appear to be at odds with the time-pressured targets and response times that they are assessed against. Therefore, it is likely that the lack of significant change in awareness reflects the wider contextual and cultural challenges that healthcare organisations face in trying to keep both commissioners and staff happy.

All four hypotheses examined as part of research question 2 were supported. The findings show that leaders' self-efficacy scores were significantly higher immediately post-training compared with the pre-training baseline scores. Leaders reported feeling more confident in their ability to deal with four common leadership scenarios; repeated short-term sickness absence, organisational change, aggressive behaviour towards their staff and poor communications amongst their team. The findings also showed that self-efficacy beliefs were sustained over time; the follow-up self-efficacy scores showed no significant difference to the post-training scores for three out of the four scenarios (H1, H3 and H4). The exception to this was leader self-efficacy scores in relation to managing organisational change (H2); the results showed that self-efficacy levels significantly decreased between the post-course and follow-up assessment. Despite this, the follow-up scores for all four scenarios were still significantly higher than pre-training levels. This implies that leaders felt more confident in their ability to deal with four common leadership scenarios following their attendance at the training intervention, and that this positive impact was sustained over time. This finding can be seen to support Bandura's (1997) view that self-efficacy beliefs are created through mastery of situations and circumstances. The maintenance of self-efficacy beliefs once

back in the job role for the four scenarios assessed may be explained by leaders having the ability to enact their new learning and successfully lead their staff through these situations. As previously identified, capability is a key criterion against which to assess training interventions against as it predicts the leaders' subsequent performance, as well as the effort, motivation and persistence that they demonstrate (Aguinis & Kraiger, 2009; Bandura, 1997; Stajkovic, Lee, & Nyberg, 2009).

Finally, the HMLR model explored as part of research question 3 provided evidence to support the first hypothesis (H1); leaders' post-training self-efficacy levels were shown to be a significant predictor of their levels of self-efficacy 6 months after training, after accounting for pre-training self-efficacy levels. Essentially, this finding helps to further support the view that the training is having a positive and sustained impact on leader self-efficacy; the findings suggest that the positive immediate impacts of the training on leader self-efficacy help to predict the transfer of leaders' self-efficacy back in the workplace (i.e. their self-efficacy scores 6 months post-training).

There was no support for the remaining hypotheses tested as part of research question 3 (H2 and H3). However, the results suggest that the positive and sustained impact of the training intervention on leader self-efficacy may be more pronounced as age increases. It is possible that the self-efficacy beliefs of older leaders are stronger, which subsequently results in their beliefs being sustained over time. Although it can only be speculated at this stage, this finding might be explained by the fact that age tends to be associated with greater leadership tenure, and consequently older leaders may have greater experience successfully mastering a range of leadership scenarios. This is in line with self-efficacy theory which outlines task mastery as the strongest determinant of efficacy beliefs (Bandura, 1977a, 1997). The more an individual experiences success in carrying out a task, the more robust their self-efficacy beliefs and the more likely these beliefs will remain stable over time and through occasional setbacks (Bandura, 1977a, 1997). Essentially, the

experience that comes with age may help to increase the strength dimension of an individual's self-efficacy beliefs.

In support of this, Bandura (1994) argues that activities that are primarily focused on knowledge, skills and expertise, as opposed to physical capacities, may be associated with higher efficacy appraisals in older individuals than younger individuals. In addition, self-efficacy judgements may become more automatic with increased age and mastery experience; judgements will be less prone to rigorous assessments of the task, the environmental constraints and the individual's feelings. As a result, efficacy beliefs will show greater stability with age. As Gist and Mitchell (1992) state; "the judgement process, with repeated exposure to a task, moves from controlled to automatic, and from weakly held, unstable and potentially less accurate judgments to more strongly held, stable and accurate ones" (p.192). The finding that pre-training self-efficacy levels predicted leader self-efficacy 6 months later is also in line with this view. Individuals who have higher levels of self-efficacy before the training intervention may be more likely to see their self-efficacy beliefs maintained over time due to the strength, and subsequently the stability, of their efficacy beliefs.

Combined, the findings from research question 3 bring to our attention the three dimensions of self-efficacy that Bandura (1977a, 1997) outlined within his self-efficacy theory; magnitude, generality and strength. Specifically, the results show three significant predictors of the transfer of leaders' self-efficacy; age, pre-training self-efficacy levels and post-training self-efficacy levels. Arguably, all three predictors are indicative of leaders who have a 'stronger' sense of efficacy. When efficacy is strong it is also stable and therefore is more likely to be sustained over time. Strong self-efficacy beliefs enable individuals to more readily deal with situations, persevere and continue to grow (Bandura, 1977a). This finding is important for training practitioners and researchers alike as it highlights that to maintain high levels of self-efficacy, consideration needs to be given to the factors that may improve its strength before, during and after a training intervention.

However, contrary to what was expected, the two transfer factors did not significantly predict the transfer of leader self-efficacy. Specifically, leaders' application of the learning did not significantly predict their self-efficacy levels at follow-up (6 months post-training). Therefore, hypothesis 2 was not supported. This is not entirely surprising given that the transfer literature has been characterised by "inconsistent and unexpected findings" (Cheng & Hampson, 2008, p.334). It is possible that the application of the learning from the training may not be sufficient for self-efficacy beliefs to be transferred. Individuals can be given the opportunity to apply their learning, but if this becomes an additional task on top of their existing demands, then there will be insufficient time or cognitive focus to dedicate to their learning (Cromwell & Kolb, 2004). Similarly, to be beneficial, the application of learning needs to occur in a timely manner (Salas, Wilson, Priest, & Guthrie, 2006a) and individuals need to have the appropriate resources in place (Grossman & Salas, 2011). In addition, self-efficacy theory (Bandura, 1977a, 1997) states that it is the mastery of tasks and the individual's cognitive appraisal of their success that helps to determine efficacy beliefs. In this sense, the application of learning may be less predictive than whether the individual successfully mastered the task when given the opportunity.

Furthermore, contrary to what was expected, the results show that post-training support did not predict leader self-efficacy at follow-up. This finding differs to some of the existing studies that have found a positive relationship between social support variables and training transfer (e.g. Montesino, 2002; Smith-Jentsch, Salas, & Brannick, 2001; Warr et al., 1999). However, it should be acknowledged that self-efficacy is a very individual level construct, and is concerned with the individual's beliefs in their ability to succeed at a task or situation. In this sense, the impact that post-training support has on the transfer of leader self-efficacy might be dependent on how the leader cognitively processes this support. Essentially, the support that individuals receive post-training may be akin to the 'social persuasion' source of self-efficacy outlined by Bandura (1977a). Therefore, how much the leader values

and respects the individuals they receive support from, and the relationship they have with them may determine whether the support received is influential enough to change their efficacy beliefs (Eden, 2003). Verbal (social) persuasion has been identified as a weaker source of self-efficacy that is unlikely to predict strong or long-lasting efficacy beliefs. Essentially this reinforces the view that the strength of self-efficacy becomes an important factor to consider in the development and maintenance of leader efficacy beliefs, and suggests that post-training support may not strengthen efficacy beliefs enough to sustain them.

It is also important to note that the predictors explored within this model account for 39% of the variance in self-efficacy scores at follow-up, and whilst substantial, this highlights the need to explore further additional factors that may influence the transfer of training. This is important from an applied organisational perspective. Grossman and Salas (2011) highlight that from a practical point of view, and considering the limited resources available, organisations cannot consider every single factor that might influence the transfer of training. However, organisational training could be better informed through evidence which demonstrates the strongest predictors of transfer.

Areas for future research will be discussed in the following chapter, as well as a discussion of the limitations and contributions of this research.

CHAPTER SIX: CONCLUSION, REFLECTIONS AND IMPLICATIONS

6 Overview

This chapter discusses the key objectives of this research and the main findings, along with the potential implications. The strengths and weaknesses of the research will be scrutinised, before finally drawing some conclusions and outlining future areas of research to be explored.

6.1 The research objectives

The objective underpinning this research has been to explore and test a more integrated model of leadership which considers the interaction between personal, environmental and behavioural components of the leader and their followers. Specifically, this research aims to build on Bandura's (1986) social cognitive theory of human behaviour by applying this as a framework that can be used to develop the study of leadership and leadership development. As part of this, the wider research literature was reviewed to identify the relevant areas to assess in relation to all three components of this social cognitive framework. Theory and research into psychological capital (Luthans & Youssef, 2004; Luthans et al., 2007a, 2007b), authentic leadership behaviour (Luthans & Avolio, 2003; Walumbwa et al., 2008), the JDCS model (Johnson & Hall, 1988) and the effort-reward imbalance model (Siegrist, 1996) were used to inform the personal, behavioural and environmental components respectively.

Two studies have been presented; study I (see chapter four) involved assessing the personal and environmental components of both leaders and their followers, as well as assessing leaders' behavioural components using follower ratings. The development and validation of these measures is outlined within section 4.4. The data collected was used to assess whether this social cognitive framework of leadership, and specifically the relationships between the personal, environmental and behavioural components could help to

develop our understanding of leadership and explain the mechanisms through which leaders have an influence.

Following the establishment of this social cognitive framework for understanding leadership, study II (see chapter five) goes on to evaluate the impact of an intervention which utilises this social cognitive approach to developing leaders. This was an important part of the overall research aims; it extends the social cognitive framework proposed within study I by establishing whether leadership is something that can be trained and developed. This is something that is implied by recent leadership theory, including authentic leadership theory (May et al., 2003), but the lack of empirical research exploring theoretically driven interventions within organisational settings has made it difficult to draw any conclusions. In addition, this research offered a unique opportunity to evaluate a scenario-based training intervention which draws on the principles of adult learning. The content of this intervention was informed by theory on authentic leadership, psychological capital and the important balance between demands and resources in the work environment. As part of this study, the relevant criteria to assess the training against was considered, and two main criteria were chosen; leaders' self-efficacy and leaders' awareness of the supportiveness of a range of behaviours. Having identified some of the limitations of existing measures of leader behaviour, and considering that self-efficacy is domain specific, it was deemed appropriate to use bespoke measures that were designed for the research population. The development and validation of these measures was outlined within section 5.4.

It should also be noted that both studies within this thesis involved participants who work within the NHS. The decision to target this population was discussed within chapter one; leaders within healthcare organisations arguably face unique challenges and are increasingly being targeted as key drivers in developing and securing the future of the NHS (Francis Report, 2013; Keogh Report, 2013; The King's Fund, 2011). Therefore, this research offers a highly topical insight into leadership within this specific sector and population, which has largely been overlooked by existing leadership studies. In addition,

it was identified that a large amount of money and time is invested in leadership development training, yet relatively little is known about its effectiveness due to the lack of good quality evaluation evidence (West et al., 2015). Through this research, the impact of a scenario-based leadership training intervention is explored.

A summary of the key messages and findings from each study within this research are presented next.

6.1.1 A social cognitive perspective of leadership (study I): key findings

Study I explored a social cognitive perspective of leadership by exploring the relationship between personal, environmental and behavioural components of the leader, as well as looking at how these components interact in the leader-follower relationship. A summary of the key messages that can be taken from this research are summarised below:

- Research question 1: Contrary to what might be expected based on social cognitive theory, there was no evidence for the mediating role of leader behaviour in the relationship between the personal components of the leader and their perceived work environment.
- Research question 2: Followers who perceive their leader to behave in a more inclusive way were found to have more positive attitudes towards work (greater job satisfaction and organisational commitment) and this relationship could be explained in part by the positive perceptions followers have of their work environment (their perceived levels of autonomy/control and social resources available within the work environment). Similarly, perceptions of control/autonomy and social resources were found to play a mediational role in the relationship between leader behaviour and follower optimism. Social resources also played a mediational role in the relationship between leader behaviour (inclusiveness) and follower self-efficacy beliefs in terms of their personal adaptability.

The meaning and contribution of these findings from both a theoretical and applied perspective are important. Leadership theory has gone through many transformations, with the most fundamental change being the shift in the way leadership itself is understood. Leadership is no longer considered to be innate or the result of fixed traits that individuals are born with. Instead there is an understanding that leadership is constructed and can be developed. Some of the recent theories of leadership, including transformational and authentic leadership theory, acknowledge that leadership is about bringing followers with you, and there is growing recognition that effective leaders gain followership through choice, rather than coercion (Pendleton & Furnham, 2016). However, although authentic and transformational theories of leadership have dominated the research literature over recent years, they are arguably subject to the same criticisms as the earlier behavioural theories of leadership in the sense that they put too much focus back on the individual leader (Alvesson & Sveningsson, 2013).

This research sought to address some of the criticisms of current leadership theories by exploring and testing an integrated model of leadership which incorporates positive behaviours in line with authentic leadership, but also considers environmental and personal components of the leader and their followers. This perspective of leadership is based on Bandura's (1986) social cognitive theory which has been demonstrated as a valid and useful explanation of human behaviour and functioning (Bandura, 2001). This research offers a unique contribution to the existing leadership literature through testing a social cognitive perspective of leadership within real-world settings.

The findings outlined within this first study provide some support for this integrated approach to understanding leadership by demonstrating that the impact of leadership on follower outcomes is not necessarily direct, but can be explained in part by the influence leaders' behaviour has on the way in which followers perceive their work environment. Researchers have identified that the indirect relationship between leaders and the outcomes of their followers

is an under-researched area (Nielsen et al., 2008). However, the findings from this research suggest that the leader acts as a lens through which followers see the organisation and their work environment. Followers' perceptions of the leader's behaviour can influence their perceptions of the work environment, which in turn can influence the beliefs they hold about themselves and their attitudes towards the job. This finding supports and builds upon research into perceived organisational support (Rhoades & Eisenberger, 2002), which highlighted that; "actions taken by agents of the organisation are often viewed as indications of the organisation's intent rather than attributed solely to the agent's personal motives" (p.698). Extending this idea to the social cognitive perspective of leadership, the findings suggest that the work environment should not be studied in isolation from leadership, but instead should be seen as a fundamental part of the leadership process. The findings help to demonstrate the relationship between all three components (personal, environmental and behavioural) in the leader-follower relationship. Specifically, it provides evidence to show that the behaviour of the leader can influence followers' personal components and attitudes towards work, but that this relationship can be partially explained by followers' perceptions of the environment. This finding is important since it highlights how leaders are not only able to influence the way in which their followers see their work environment and the way they feel about their job, but it also shows that leaders can influence the beliefs that followers hold about themselves and the judgements they make about their abilities (i.e. their personal components). The findings provide some early support to show that the relationship between leader behaviour and followers' personal components (e.g. beliefs in their ability to adapt and their level of optimism) may be explained by the influence that leaders have on the way that followers perceive their work environment.

The relationship between leader behaviour and followers' perceptions of social resources in the environment is important. Social support has been well-established as a predictor of health and well-being outcomes; both directly and through its ability to buffer the impact of stressors (Cohen & Wills, 1985;

Johnson & Hall, 1988). The findings from study I suggest that the support that social resources generate can help to explain the relationship between leader behaviour and all the assessed follower outcomes. Drawing on attachment theory (Bowlby, 1982), this might be explained by the way that leaders become an attachment figure to their followers; through their demonstration of positive and inclusive behaviours they can help to create a 'safe haven' or environment that allows followers to feel supported in dealing with distressing and challenging situations. As a result, this may increase the likelihood of positive follower outcomes. In addition, leaders provide a 'secure base' that enables followers to feel safe in pursuing their goals, and subsequently encourages followers to develop personally and build their personal components.

The findings also arguably support a social identity and social learning perspective of leaders' ability to influence follower outcomes through their position as a role model. Specifically, social identity theory (Tajfel & Turner, 1979) suggests that leaders who behave in a positive and prosocial way may be seen by followers to be more reflective of the ideal attributes of an 'in-group' member. Subsequently, they will appear more attractive to their followers and have greater influence as a role model to promote positive follower outcomes (Ullrich et al., 2009). In addition, the 'attention' aspect of modelling that is outlined within Bandura's (1977b) social learning theory suggests that a leader who demonstrates supportive behaviours and who is well respected may be more effective as a model. This research can be seen to support the role of leaders as role models by showing that inclusive and participative leadership behaviours are associated with positive follower outcomes, including follower attitudes, which may subsequently influence followers' own behaviour. In addition, leaders' inclusive behaviour is shown to be associated with positive perceptions of the followers' work environment. In this sense, this research suggests that leaders who demonstrate inclusive behaviours help to create the conditions for positive role modelling to occur. However, further research

should look to assess follower behaviour and establish the relationship between leader and follower behaviour using a longitudinal study design.

The findings are also in line with research by Avey (2014), which argued that the Pygmalion effect outlined by Eden and Shani (1982) may be applicable to understanding the antecedents of follower psychological capital. Their work supported the view that leaders' behaviour, actions and the positive expectations they hold of their followers can predict the self-efficacy of their followers. Arguably, this relationship might also apply more broadly to personal components in general, as suggested within this research, rather than just self-efficacy. A second possible avenue Avey (2014) put forward is based on research by Hackman and Oldham (1980) into job characteristics, and the idea that certain aspects of the job may influence the opinions and beliefs that we hold of ourselves and our job. Through drawing on this previous research, it might be expected that followers' personal components and job attitudes may be influenced by leaders' behaviour and how this may translate into the characteristics of the job itself, including the level of control an individual has over their tasks, and the support they are given to complete them, as demonstrated within this research.

This findings from study I may also be explained by the conservation of resources model (Hobfoll, 2002) and the broaden and build theory (Fredrickson, 1998, 2003, 2004). Both theories suggest a positive spiral of resources; where the resources we gain lead to the attainment of further resources. Applying this to the research findings here, it seems that when the leader acts in an inclusive and supportive way, then they become a resource for their staff which subsequently generates other perceived resources. Essentially, through having the leader as a resource, followers will perceive their work environment to be more resourceful (i.e. they see their work environment to be more supportive and offer them greater control), which subsequently influences their own personal or psychological resources (e.g. optimism) as well as the way they feel about their place of work (their attitudes towards work).

This idea is supported by existing research which shows that a resourceful work environment can influence employee beliefs and cognitions about their ability to carry out a task (self-efficacy) and their engagement (Xanthopoulou, et al., 2008). This is the underlying idea behind the psychological capital intervention developed by Luthans et al. (2006b). Although it is beyond the scope of this research, there is strong existing evidence to suggest that the development of these psychological resources (i.e. personal components) may go on to affect how followers act and behave, and ultimately how well they will perform in difficult and challenging circumstances (Abele & Spurk, 2009; Bandura, 2000b; Luszczynska, & Schwarzer, 2005). Therefore, the findings have important implications from both an individual and organisational perspective.

This research arguably addresses a gap in the existing literature that was identified by Newman et al. (2014). In their systematic review of the psychological capital literature they conclude that there is a stark difference in the amount of research focusing on the antecedents of psychological capital and the outcomes; most research is focused on the latter. This finding has been echoed within other research (e.g. Avey et al., 2011). Arguably, this is because to prove its worth as a construct, researchers are keen to show how psychological capital relates to desirable outcomes. However, to understand the construct further, it is necessary for research to also address and identify the possible mechanisms that help to increase psychological capital. This research shows that one possible mechanism through which two important aspects of psychological capital can be developed (self-efficacy in relation to personal adaptability and optimism) is the way that leaders' behaviour can influence follower perceptions of their work environment. Specifically, perceptions of social resources in the environment were shown to relate to both personal adaptability and optimism, whereas perceived autonomy/control was shown to have a significant mediating role in the relationship between leader behaviour and follower optimism. The effect sizes for the mediation analyses carried out were modest (ranging from small to

medium), but nonetheless, the findings offer an initial insight into the mechanisms through which leaders can influence others.

Contrary to the predictions of research question 1, there was no evidence for the mediating role of leader behaviour in the relationship between leaders' personal components and their perceived work environment. However, considering the hierarchical nature of the NHS, and the fact that the research was carried out on leaders who were first line management level, it is likely that all leaders within this sample would have a leader above them. Therefore, they will be influenced by the behaviour of those who are responsible for leading and managing them; the behaviour of their leader may prove to have a stronger mediating role in this relationship than their own behaviour. For example, the leaders within this sample may have high levels of self-efficacy (a key personal component), but the relationship between this and their perceived environment may be affected by the behaviour of their leader. It might be expected that if their leader is perceived to be unsupportive, or unwilling to delegate tasks then this might have an influence on their perceptions of control/autonomy and social resources within their work environment, which over time may have a negative impact on their self-efficacy beliefs. Essentially, leadership is a social process which may be best understood by exploring the leader-follower relationship over time. This may explain the lack of significant results when exploring how these components interact within the leader. This has been echoed by other researchers; Howell and Shamir (2005) stated that; "followers also play a more active role in constructing the leadership relationship, empowering the leader and influencing his or her behaviour, and ultimately determining the consequences of the leadership relationship" (p.97). Therefore, focusing solely on the individual and failing to consider the social dynamics and process of influence that occurs between leaders and followers may lead to a flawed and incomplete understanding of leadership.

As outlined earlier within chapter one, social cognitive theory states that some components may have a stronger influence than others, and the influence of each of the three components may not occur at the same time

(Bandura 1989; Wood & Bandura, 1989). Therefore, this may also help to explain the lack of mediation effect or significant relationship between the three components within the leader sample. This highlights a limitation of this research; the cross-sectional nature of this study does not allow for assessment over time. Future longitudinal research is needed to help explain how these components might interact for the individual leader, as well as their interaction in the leader-follower relationship over time.

In summary, the first study within this research offers a framework for future research into an integrated approach to leadership, which considers the interaction between behaviour, the environment and the personal components of leaders and their followers. Avenues for future research will be identified later within this chapter, but next the key findings of the second study within this research will be discussed.

6.1.2 Developing leaders through training (study II): key findings

Building on study I, the second study within this thesis aimed to establish whether a scenario-based leadership training intervention which promotes a social cognitive perspective of leadership is effective in changing leaders' awareness of supportive leadership behaviours and enhancing leaders' self-efficacy beliefs.

The key messages that can be taken from this research are summarised below:

- Following participation in a scenario-based leadership training intervention, participants' awareness of what constitutes supportive leadership behaviour changed significantly. Democratic leadership behaviours and behaviours relating to self/other awareness were seen to be significantly more supportive immediately post-training compared to pre-training (baseline) scores. However, at the follow-up assessment (6 months post-training), the perceived supportiveness of these behaviours fell to below the baseline

measure. There was no significant change in the perceived supportiveness of performance/target-driven behaviours over time.

- Following participation in a scenario-based leadership training intervention, participants' self-efficacy to deal with four common leadership scenarios was found to be significantly higher than pre-course (baseline) levels. Self-efficacy levels were also shown to be maintained over time.
- The transfer of leaders' self-efficacy (as assessed 6 months post-training) can be predicted by leaders' pre-training levels of self-efficacy, their post-training self-efficacy levels and their age.

The results of study II present some interesting findings that build on our understanding of the impact of leadership interventions. One area that does not appear to be immediately intuitive are the results relating to leaders' perceptions of the supportiveness of a range of leadership behaviours over time (research question 1). It is evident that whilst there was an initial positive increase in leaders' awareness of how supportive some of the assessed leadership behaviours are, scores from the follow-up assessment 6 months after the training intervention were found to fall below baseline level. Specifically, democratic leader behaviours and behaviours relating to self/other awareness were perceived to be less supportive at follow-up than they were prior to attending the training. There was no significant change in the perceived supportiveness of performance/target-driven behaviours over time.

Understandably, this may raise concerns as to whether this specific leadership intervention is effective, or indeed if it is resulting in leaders feeling less certain about what constitutes supportive leadership behaviours. However, as discussed within the previous chapter (see section 5.13) this may also be symptomatic of a 'recalibration effect' and leaders' awareness of the supportiveness of these behaviours may, in reality, be returning to their 'true' pre-course (baseline levels). Arguably, leaders rate the supportiveness of these behaviours before training based on their existing ideas of what is meant by

the concept of 'supportiveness'. Following their attendance at the training intervention, their understanding of this may shift and arguably a retrospective assessment of their pre-course awareness of the supportiveness of these behaviours might reveal lower 'true' awareness scores. However, this is speculation at this stage as it was not tested within the current study and further research is needed to substantiate this. There are other viable explanations for this pattern of results. Behavioural awareness can be seen to be more of a 'distal' construct; the assessment of awareness is less focused at the individual level, but instead will be influenced by the work environment in which individuals operate. Essentially, the environment will influence leaders' perceptions of what is meant by 'supportive' leadership behaviour. The organisational culture and the underlying behavioural norms help to dictate what is and is not acceptable within the specific organisation. Similarly, the behaviours demonstrated by other leaders within the organisation and the positive or negative reinforcement of this behaviour is also likely to influence their own views of how a leader should behave and what behaviours are deemed to be supportive. As previously outlined, leaders can act as an important model for us to base our own behaviour on; therefore, it is likely that the participants of this intervention will be influenced by their own leaders and the behaviours they model. This may subsequently lead to a contrast effect; where individuals evaluate and judge the behaviours to be less supportive than their initial assessment of them because the accepted leadership behaviours within their organisation provide a contrast against which they judge the behaviours against.

This finding does create questions about whether training alone is enough to bring about a permanent change in leaders' perceptions of what constitutes supportive or unsupportive leadership behaviour. Although there were some immediate positive changes in awareness following participation in the 'Supportive Leadership and Management Behaviour' SBT intervention, this was not sustained over time. The lack of transfer of behavioural awareness is evident despite the training intervention itself being well received and

designed to increase the likelihood of the new learning being applied back to the job role. However, as outlined, it is possible that the lack of transfer may be due to factors within the work environment, rather than the intervention itself.

Essentially, this highlights that leadership cannot be explored in isolation from the environment in which leaders operate. This is in line with the social cognitive perspective of leadership that was outlined within study 1 and underlies this research. It follows that successful leadership interventions may need to target leaders at all levels and address the wider culture to bring about a permanent shift in leaders' awareness of supportive and unsupportive leader behaviours.

The findings from research question 2 provide evidence to support the prediction that leaders' self-efficacy beliefs can be enhanced following participation in a leadership training intervention. Self-efficacy is a construct that is focused at the individual level and in this sense, it is a more 'proximal' indicator of the impact of training than behavioural awareness; it provides a measure of how the training is impacting on the delegate. The increase in leader self-efficacy post-training was consistent across all leadership scenarios assessed, which suggests that the training can positively influence leader self-efficacy across a range of common situations. Furthermore, the longitudinal analysis revealed that self-efficacy perceptions are maintained over time; the follow-up assessment of leader self-efficacy (conducted 6 months post-training) showed no significant difference to post-training levels for three out of the four scenarios assessed. In addition, self-efficacy scores at follow-up (6 months post-training) were significantly higher than pre-training self-efficacy scores for all four scenarios assessed. It provides promising support for the positive impact that training interventions can have on leaders' beliefs in their ability to successfully lead and manage situations that they may face within their job role. In addition, the finding that self-efficacy beliefs can be developed through training provides evidence to support the view that self-efficacy is a state, rather than a trait (Luthans & Youssef, 2004).

Building on this, the third research question explored the predictors of the transfer of leader self-efficacy. The results showed that leaders' self-efficacy beliefs 6 months after training were positively predicted by pre-course self-efficacy levels, post-course self-efficacy levels and leaders' age. Drawing on Bandura's (1977a, 1997) self-efficacy theory, the results may relate to leaders' strength of self-efficacy, which forms one of the three dimensions of self-efficacy beliefs. The stronger the leader's conviction about their ability to perform successfully, the more likely their efficacy beliefs will remain stable and will withstand occasional failure or disconfirming experiences (Bandura, 1977a). The finding that self-efficacy beliefs are more likely to be maintained over time in older leaders may be explained by the fact that age can be indicative of the leader's experience in successfully mastering many leadership situations and tasks. Task mastery has been identified as a key determinant of self-efficacy beliefs (Bandura, 1977a) and therefore, age may indirectly reflect greater experience of task mastery and subsequently stronger self-efficacy beliefs. It follows that older leaders with greater mastery experience may have stronger efficacy beliefs that are more likely to be maintained over time.

However, contrary to what was expected, there was no evidence that the application of the learning or the support received post-training predicted the transfer of leader self-efficacy. Similarly, the interaction between the application of the learning and post-training support revealed no significant moderation effects. As outlined within chapter five, applying the learning may not significantly predict the transfer of self-efficacy since it does not guarantee that an individual will have successfully mastered the tasks. Similarly, post-training support from others might be expected to have short-term benefits for leaders' self-efficacy through its ability to act as a type of verbal persuasion, but it may fail to have long-lasting effects as it does not fundamentally change the individual's beliefs, but only serves to enhance them temporarily (Stajkovic & Luthans, 1979). Furthermore, the influence that others have on our self-efficacy beliefs will be dependent on how respected and relatable we perceive them to be, as well as other environmental factors such as the resources that

enable us to perform (Bandura, 1977a). It should be noted that the HMLR analyses showed that overall, the variables included in the model accounted for 39% of the variance. Therefore, further research is needed to explore other factors not included within this research that might help to predict the transfer of training and develop our understanding of training effectiveness.

The findings from study II provide some promising evidence of the positive impact of a one-day leadership training intervention, and points to several areas for future research and inquiry. This research demonstrates the positive impact of an innovative, scenario-based training intervention on leaders' self-efficacy to deal with several common situations or 'problems' they may face. Arguably, this finding suggests that similar training interventions which utilise scenarios and draw on the principles of adult learning may be effective in promoting greater self-efficacy. In addition, this research also builds on the existing literature by providing some early evidence for the effectiveness of 'train the trainer' approaches. However, the lack of transfer of awareness of the supportiveness of leader behaviours demonstrates a possible limitation of one-day training interventions. Whilst the intervention evaluated in study II was informed by theory, it is limited in the scope of content that it can cover and the impacts that can reasonably be expected within the time allowed. Arguably, the findings identify a need for further leadership intervention research which attempts to address the wider environmental factors that may influence transfer. Inevitably, this will require more than a one-day training intervention.

In summary, the studies presented within this research have built on the existing research on leadership and have helped to address some of the gaps identified within the current literature. However, like most research within applied organisational settings, the research presented here has some limitations, which will be addressed in the section that follows.

6.2 Limitations

Efforts were made to adopt a methodological design that could stand up to scrutiny, however, there are several limitations to this research study that need to be addressed. Firstly, although techniques were used to assess the validity and reliability of the measures wherever possible, it was necessary to use some single item measures as part of the follower assessment in study I. Researchers have long held the belief that measures made up of multiple items are superior to single items (Nunnally & Bernstein, 1994). They are considered to be more reliable (Churchill, 1979; Peter, 1979), with researchers arguing that single item scales may affect the reliability and validity of measures (Hinkin & Schriesheim, 1989). However, more recently researchers have started to recognise their benefit in practical terms and when considering parsimony (Pomeroy, Clark, & Philip, 2001). In addition, researchers have shown that single item measures can reduce the monotony and subsequent biases that can otherwise occur (Drolet & Morrison, 2001). They can also reduce the likelihood of 'bad' items being hidden within a measure; including items which tap into a predictive attribute that is different to the predictor being assessed (Drolet & Morrison, 2001). Arguably, singular constructs do not necessarily require a measure of multiple items (Rossiter, 2002). In fact, alpha reliability may not be a relevant test for all constructs (Bergkvist & Rossiter, 2007) and predictive validity may be a better guide of whether the measure should be used (Cronbach, 1984). There are a growing number of researchers who accept that single item measures can be appropriate and acceptable psychometrically. Gardner, Cummings, Dunham and Pierce (1998) argue that; "it is possible that one 'good' item can be better than many 'bad' items when evaluated on criteria of reliability and validity" (p.899). For example, there is some evidence to suggest that single item measures of overall job satisfaction are better than multiple item measures (Scarpello & Campbell, 1983; Wanous, Reichers, & Hudy, 1997). This is particularly true when measuring overall constructs as opposed to domain specific constructs (Wanous et al., 1997). Researchers have argued that the choice of measure should be based on the specific task and its

appropriateness, and as such the use of single item measures should not be rejected (Gardner et al., 1998; Wanous et al., 1997). Taking this into consideration, and given the practical time constraints, the use of single item measures within this study were justified but are acknowledged as a potential limitation that future research should seek to address.

Another limitation of this research is the fact that study I is cross-sectional; meaning that it was not possible to determine reciprocal relationships proposed by social cognitive theory between the personal, environmental and behavioural components. Prospective longitudinal designs can be advantageous as they allow reciprocal relationships to be explored (De Lange, Taris, Kompier, Houtman, & Bongers, 2003). However, this type of design can come at a cost of high levels of sample attrition and can lead to concerns of a systematic non-response bias at later time periods (Ployhart & Vandenberg, 2010). Cross-sectional studies have practical utility in applied research as they are cheaper and easier to administer and are less of a burden on participants' time (Sedgwick, 2014). Given the fact that the participation rate for study I was already low (16%), the decision to use a cross-sectional design could be justified as being the most pragmatic approach. In addition, study I was primarily concerned with exploring relationships between the personal, environmental and behavioural components of leadership and the leader-follower relationship. Therefore, a longitudinal design was not required as it was not necessary to assess trends over time or determine causation (Sedgwick, 2014).

Although the use of a cross-sectional design can be justified, it is important to recognise that this type of design can aggravate common method biases and subsequently lead to inflated correlations. Common method variance has been identified as a problem which can result in the wrong conclusions being made about the relationship between different constructs; relationships are either falsely inflated or deflated. It is more likely to arise if the measurement of predictor and criterion variables comes from the same source and context. This results in false covariance between variables since

individuals aim to maintain consistency and appear rational in their responses (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It may also result from issues with the measures themselves being ambiguous or socially desirable.

Research has identified that common method variance can be controlled by adjusting the design and methods used. One approach is to measure the predictor and criterion variables from different sources, or to introduce a time lag between the measurement of the predictor and criterion variables (Podsakoff et al., 2003). Within this research, study II (training evaluation) uses a time lag to help overcome this. However, the relationships explored within research question 2 of study I (through the SMBI assessment) are taken from the same source at a single point in time, and so it is acknowledged that this could introduce bias in the findings. Although this presents a potential limitation of this study, Spector (2006) notes that common method variance is less of an issue when psychometrically sound measures are used. Given that the measures used within this study were shown to be reliable and valid, this may have reduced the likelihood of common method variance impacting on the results. In addition, items were piloted prior to data collection in order to eliminate ambiguity in scale items and prevent systematic response tendencies (Podsakoff, MacKenzie, & Podsakoff, 2012).

Another frequently reported type of response bias is social desirability; where the individual tends to respond to questions in a socially favourable way. As with other forms of response bias, this can threaten the validity of the test results. However, socially desirable responses may not be a deliberate act of the respondent, but may reflect unconscious tendencies (Crowne & Marlowe, 1964). Therefore, tests to detect social desirability should arguably be treated with caution to prevent responses from being falsely invalidated. Researchers have attempted to find alternative ways in which to overcome some of the possible biases that arise in behavioural research. As a guide, Podsakoff et al. (2003) recommend that steps are taken to improve the questionnaire design, such as making items concise and unambiguous (Peterson, 2000; Spector, 1992). Similarly, reviewing questions to make them as neutral as possible, or

self-administering the questionnaire so that social cues are not as salient can help to reduce the likelihood of social desirability effects (Nederhof, 1985). The measures and methods used within this research have attempted to take into consideration these strategies to help minimise the effects of social desirability. As such, the questionnaires were self-administered, and careful consideration was given to the questionnaire design. In addition, individuals were reassured that their responses were confidential, which can help to reduce the pressure on individuals to respond in a socially desirable way (Kelman, 1961).

It is also recognised that formal experimental designs are generally considered to be the best strategy for evaluating training interventions; however, there are several constraints within organisations that will influence how feasible this is (Randall, Griffiths, & Cox, 2005). As such, evaluation studies in the real world may need to differ from 'textbook' examples of experimental designs. The research design utilised within study II adopts a pre-test, post-test, follow-up design, but notably without the use of a control group (i.e. those who had not been through the training) due to the logistical challenges of obtaining a control group within organisational settings. Whilst previously, this may have led to concerns over how useful or valid this type of evaluation is, there is now growing recognition that alternative evaluation designs can still be informative for organisations and can play an important role in decision making. Arguably, there is a need for more realistic evaluation models or frameworks. This view is supported by Sackett and Mullen (1993) in their influential paper which highlighted that although internal validity is important, it is possible to evaluate without the use of pre-test measures or control groups. They argued that logical reasoning of the researcher can help to overcome some concerns or ambiguity surrounding any evidence of change. When attempting to measure change with relatively small sample sizes, they argued that it may be better to sacrifice using a control group to increase the sample size of the intervention group and ultimately the statistical power. Within this research, the high level of attrition at the follow-up assessment (6 months post-training) arguably demonstrates the inherent difficulties associated with real-world research.

Although the follow-up sample was still sufficient, it reflects the challenges in carrying out formal experimental designs within organisational settings. In recognition of this, Sackett and Mullen (1993) argued that in some cases it may be necessary to make a trade-off between internal validity and statistical conclusion validity.

Furthermore, it is recognised that the statistical techniques utilised throughout this research are primarily designed to explore relationships and associations between variables, but do not imply causality. Therefore, the interpretations of the relationships should only be made tentatively. In particular, mediation analyses tend to imply causality in the sense that a mediator is defined as a variable that can explain the relationship between two variables (MacKinnon et al., 2002). However, there are several conditions that must be met to be able to infer causality, including the temporal order of relationships which cannot be established through cross-sectional research designs. Therefore, it is recommended that the mediation results presented within study I are interpreted as exploratory or correlational (James & Brett, 1984).

The techniques used within this research were deemed to be the most appropriate for the research objectives of each study; however, this is not to say that they are the only suitable techniques. There may be more sophisticated analyses that researchers may wish to undertake in the future to extend and develop this research. The use of a mixed methods approach could enhance this research by providing more detailed and descriptive information to help with the interpretation of the results.

On a final note, the research was aimed at exploring leadership within a specific population; first line management level leaders within the NHS. The scenarios that were used to assess leaders' self-efficacy as well as the behavioural items that were used within this research are therefore specifically designed for this population. They are not necessarily generalisable to leaders outside of these organisations or to more senior leadership roles. As with most applied research, the results should be interpreted with caution. The

participating organisations within this research are likely to have their own culture, systems and structures. Subsequently, the findings reported within this research may not necessarily be replicated in other organisations.

Despite these limitations, it is important to acknowledge the important contributions of this research and its implications for both researchers and practitioners. These will be discussed in the sections that follow.

6.3 Theoretical contribution

The studies presented within this thesis have contributed to our theoretical understanding of leadership in several ways. Firstly, through demonstrating the significant interactions between personal, environmental and behavioural components in the leader-follower relationship, this research indicates that there is value in adopting a social cognitive perspective of leadership and provides a new theoretical framework to explore leadership processes. The findings from this research help to challenge earlier contingency theories of leadership by showing that leaders are not just the products of their environment; they can construct and influence followers' perceptions of the work environment.

In line with authentic leadership theory, this research has demonstrated the positive impact of inclusive leadership behaviours, and suggests that through these behaviours, leaders help to create a positive work environment for their followers. In addition, this research supports authentic leadership theory by showing that inclusive approaches to leadership can help to foster positive work attitudes, as well as act as a catalyst for personal growth through building the psychological resources of followers.

This research also extends theory and research into psychological capital; existing studies have tended to focus on the associated outcomes, with relatively little empirical research exploring the predictors of psychological capital (Newman et al., 2014). However, this research suggests that leaders play a crucial role in the development of followers' psychological capital. In addition, through demonstrating that leaders' self-efficacy is increased over

time and following a training intervention, this research supports the view that self-efficacy is a state, and helps to challenge early trait approaches to leadership.

Importantly, this research has helped to provide a more integrated theoretical perspective of leadership which has enhanced our understanding of the leadership process within healthcare settings. The implications of this research will be discussed next, along with suggestions for future research.

6.4 Summary of implications and suggestions for future research

6.4.1 Implications

This research has several implications for both applied practice and future research. Through exploring the relationship between personal, environmental and behavioural components, this research has helped to develop our theoretical knowledge of the leadership process and offers a framework to guide future research into leadership. It offers an insight into some of the mechanisms through which leaders' behaviour has an impact; the findings suggest that the impact leaders have on followers' attitudes and personal components may be partially explained by the influence the leader has on their followers' perceived work environment. Through understanding these relationships, this may help to inform organisational policies, human resource systems, the management structure and leadership practices (Avey, 2014). This research can also help leaders to become more aware of their level of influence, and the impact of their behaviours. Specifically, through identifying the positive role of inclusive and participative leadership behaviours, this research can help to inform behavioural interventions.

The findings of this research suggest that the development of authentic leadership behaviours; specifically, the behaviours that foster an inclusive and participative approach, may also help to develop the personal components of their followers, as well as create more positive attitudes towards work. The results show that this relationship may be mediated by followers' perceptions

of the work environment. Essentially, this research develops our understanding of the influence of leaders' behaviour on follower outcomes by showing that this relationship may not necessarily be direct but may be explained through the influence leaders have on the way that followers perceive their work environment.

This research also addresses a gap in the literature by showing that inclusive leadership behaviour and the perceived environment (control and support) may act as important antecedents in the development of personal components. Recent work by Newman et al. (2014) highlights that much of the existing research on personal components, and specifically psychological capital, focuses on the associated outcomes. Instead, this research has contributed to the emerging literature on the important role that leaders play in the development of followers' personal (psychological) components.

The research findings suggest that through investing in a one-day leadership intervention which promotes a social cognitive perspective of leadership, this can increase leaders' self-efficacy; a key personal component. The benefits of self-efficacy are well established in terms of behaviour, performance, health and well-being of both leaders and their followers (Bandura, 1977a; Stajkovic & Luthans, 1997). The finding that leaders' self-efficacy increased following their attendance at the scenario-based training intervention also provides some support for the value of this training approach. In addition, it provides some initial evidence to support the effectiveness of the 'train the trainer' approach used within this research. Although further research is needed to understand the content and techniques of training that are most effective, this research provides some promising evidence for building self-efficacy through interactive and experiential training techniques, such as those used as part of the scenario-based training intervention explored within study II.

Furthermore, the findings presented from the HMLR model, which explores the predictors of the transfer of self-efficacy, highlights that organisations should consider how a 'stronger' sense of self-efficacy can be

developed in leaders to promote the stability and maintenance of their self-efficacy beliefs over time. This is in line with Bandura's (1977a, 1997) self-efficacy theory, which highlights that our efficacy judgements can differ across three dimensions; strength, magnitude and generality. Arguably, and according to theory, attempts to promote stronger self-efficacy beliefs will enable leaders to more readily deal with situations and continue to grow. This could help to improve the long-term impacts of training interventions on leaders' self-efficacy beliefs.

Arguably, this research helps to bridge the gap between theory and practice; it develops our understanding of leadership as a process involving personal, environmental and behavioural components and demonstrates how this can be applied in a work-based intervention. The findings from the evaluation study highlights the need for future research to gather more information about the content, design and delivery of effective leadership training interventions. This will be discussed next, alongside other areas of future research.

6.4.2 Future research

This research has been primarily exploratory in nature and has built on existing theory and research to provide a better understanding of the process of leadership. It has offered a foundation for future research to explore leadership in a holistic and integrated manner. As such, it has highlighted several areas for consideration, which will be discussed here.

Firstly, whilst the areas measured were designed to be broad and encompassing, there may be other important areas that have not been measured. For example, future research could explore different leadership behaviours and the interaction of these behaviours with personal and environmental components. This would allow a comparison against the inclusive, authentic leadership behaviours measured within this research. As outlined earlier (see section 4.5), this research adopted a positive psychology approach and as such it was primarily focused on looking at the positive

leadership behaviours and the beneficial impacts they can have. However, future research could extend these findings by also considering less supportive forms of leadership and how this influences the leader-follower relationship and the interaction between personal, environmental and behavioural components. Further longitudinal research is also needed to explore other relationships that might exist between these components, and to test the idea of reciprocal determinism. In addition, the interaction between these components should be explored within different organisational contexts.

Future research should give greater attention to process evaluation of leadership training interventions. Whilst this research explored two key areas of the organisational context (application of the learning and post-training support) that have been highlighted within the 'Learning Transfer System Inventory' (Holton et al., 2000), there are likely to be many other factors that influence the transfer of training and help to explain the mechanisms through which training has an impact. For example, further research should explore the role of individual differences on the impact of a training intervention. Existing research has shown that the impact of training may be influenced by the trainee's personality traits (Studer-Luethi, Jaeggi, Buschmuehl, & Perrig, 2012; Tziner, Fisher, Senior, & Weisberg, 2007). For example, highly conscientiousness individuals are likely to be persistent and self-disciplined, which may in turn help to promote better training outcomes through their increased motivation to learn (Colquitt et al., 2000). Similarly, individuals who score high on the openness to experience trait may be more likely to seek opportunities to learn and develop and will demonstrate eagerness to learn from the training (Major, Turner, & Fletcher, 2006). In addition, the intellectual curiosity that is associated with the personality trait of openness to experience encourages the learner to explore and adopt new skills (Herold, Davis, Fedor, & Parsons, 2002). Extraversion has also been associated with higher training performance; arguably through the influence this trait has on learner motivation. Training and learning can be considered a social process and therefore it follows that it may have greater influence on individuals who score

at the higher end of extraversion (Naquin & Holton, 2002). It is evident that there are good grounds to include personality in future research studies and to identify whether receptiveness to training may depend on individual traits and characteristics. Arguably, this information could have important practical implications for organisations as it could help to inform how to tailor training interventions to the individual to get the biggest return on investment.

There is also a need for further research which explores the three dimensions of self-efficacy; its strength, generality and magnitude, to help understand how each of these dimensions might be developed through training and back in the workplace. The findings from this research suggest that identifying ways of increasing the strength of self-efficacy may help to increase the likelihood of the transfer of self-efficacy beliefs once back in the job role. Future research should also explore the impacts of training beyond 6 months, and establish whether post-training activities and 'refresher' training might reduce the likelihood of loss of transfer over time.

It is recommended that future research looks to explore the specific content and delivery of leadership training interventions to identify the most effective approaches. The evaluation study presented within this research explores the impact of a scenario-based training intervention which draws on the principles of adult learning and experiential learning and promotes a social cognitive perspective of leadership. Whilst the evaluation results reveal some promising findings, future research should look to compare this training intervention to alternative training methods. Through utilising qualitative methods of evaluation in addition to quantitative approaches, it may be possible to gain more in-depth information about what works and why.

Research into the impact of leadership interventions should seek to look beyond the individual, and explore the impacts from a collective, team and organisational perspective. For example, there is an emerging body of research which explores collective psychological resources (i.e. personal components) and the impact this has on team performance and behaviours (e.g. Peterson & Zhang, 2011). There is growing recognition of the role that leaders play in the

development of collective self-efficacy, and the importance of this as a predictor. Studies that have explored collective self-efficacy have found associations with cohesion, cooperation and satisfaction (West, Patera, & Carsten, 2009). Future research should not only focus on the collective nature of personal components, but also explore interactions across different levels (Youssef & Luthans, 2011). Leadership research could benefit from greater exploration of how team psychological resources, individual psychological resources and the associated outcomes operate together. For example, an initial study by Martin, O'Donohue and Dawkins (2011) found that higher levels of collective (team) psychological capital increased the effect of individual psychological capital on job satisfaction.

The existing research could be developed to go beyond the current focus on the leader-follower relationship to consider the social cognitive processes that are at play at the collective (group or team) level. Arguably, being a prototypical member of the in-group may be equally important as some of the other characteristics of a leader (Hogg, 2001). As outlined earlier (see section 1.4), social identity theory (Tajfel & Turner, 1979) may help to explain the mechanisms through which leaders have an impact and can inform our understanding of how leaders emerge. Future research should aim to integrate this social identity perspective of leadership into the social cognitive framework that is outlined within this study, to provide a more comprehensive understanding of the different levels at which leaders can have an influence.

In addition, further longitudinal research is needed to understand and test the proposed mechanisms through which leaders' behaviour impacts on follower outcomes. For example, the emotions and moods of the leader should be explored to see how this might influence the emotions and actions of their followers through a process of emotional contagion (Bono & Ilies, 2006). Similarly, the concept of the psychological contract that exists between leaders and their followers should be explored further.

6.5 Conclusion

Leadership is a powerful force that has received a great deal of attention over recent years. Leaders are considered to be an essential part of the solution to successfully transforming the NHS and helping it to withstand the increasing pressures and demands that it faces (Ham et al., 2016). However, the general lack of agreement over the process of leadership has created challenges for researchers and practitioners alike, and it has been acknowledged that there is a need for a more integrated approach to understanding leadership (Avolio, 2007). Arguably this should incorporate the broad variety of behavioural, situational and personal components outlined within the vast number of existing leadership theories.

This thesis has proposed a framework for understanding leadership which is based on social cognitive theory of human behaviour and performance, and explores the interaction between behavioural, environmental and personal components. The overall purpose of this research was to test this framework in the context of leaders within the NHS, and to build on this framework by establishing whether leadership is something that can be developed through a training intervention which promotes this integrated approach to leadership. Specifically, the intervention promotes a social cognitive perspective of leadership, but also draws on adult learning principles and existing leadership theory to increase its impact. It provides a framework for practitioners who are looking to develop interventions, as well as researchers who seek to understand the process and influence of leadership.

A central theme that has emerged within this thesis is the importance of the perceived environment. The findings within this research suggest that attempts to understand the influence of leadership without consideration of the environment may be limited. It is argued within study II that leaders' understanding of what is meant by 'supportive' leadership behaviour may be influenced over time by the environment in which they operate. Although further research is needed to substantiate this, it once again highlights that

leadership cannot be understood in isolation from the context in which it occurs and the environment that they help to construct. In addition, through adopting a social cognitive perspective of leadership, this research highlights the role of self-efficacy as a key self-reflective mechanism that can predict behaviour. Arguably, this is an area that has been neglected within the current leadership and intervention research, despite it being central to human functioning. This research has shown that leaders play an important role in enhancing their followers' efficacy judgements, as well as providing evidence that leader self-efficacy may be increased through scenario-based training approaches.

In summary, this research offers an alternative framework for understanding and developing leaders. It has served to highlight that the emphasis on the individual 'heroic' leader in both academic research and within organisations may be flawed. Instead, leadership should be viewed as a dynamic process and interventions aimed at developing effective leaders should consider the interplay between personal, environmental and behavioural components, as well as the leader-follower relationship. It is hoped that this research can help to inform future approaches to developing and understanding leadership within organisational settings.

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APPENDIX

The following documents are provided in the appendix:

- Appendix A: SMBI assessment
- Appendix B: Competency framework
- Appendix C: Participant information sheet
- Appendix D: Pre-course evaluation questionnaire
- Appendix E: Post-course evaluation questionnaire
- Appendix F: Follow-up evaluation questionnaire

Further documents/supporting information can be provided on request.

The Supportive Manager Behaviour Index (SMBI)

(Note: The full online version of this assessment shows the response options after each scenario outlined within section one. However, this has been excluded here to avoid repetition. In addition, it should be noted that this is the leader version of the SMBI assessment; the wording of the 'follower' version of this differs slightly, as outlined earlier in section 4.4)

This assessment has been designed to develop our understanding of leadership within healthcare settings. Through completing this assessment, you will help to play a valuable role in research being conducted through the University of Nottingham. In addition, you will have the opportunity to receive a report on your scores to help with your own development as a leader within your organisation. The assessment is voluntary, but we do ask for your help. To complete this assessment, please follow the instructions below:

1. This assessment has been designed to collect information from you as a leader – please respond to all questions that are asked of you.
2. When responding to questions, please be as honest and as open as possible. The greater your level of openness and candour the more valid the data collected and your report.
3. This assessment also requires you to select others to rate you. Please identify at least three individuals (followers) who will also be able to rate you.

Please remember:

The assessment is being used for research purposes and can support your continuous development and positive growth as a leader within the organisation. No one from your Trust will see your completed assessment, hence all responses remain confidential. Feedback will be in the form of reports or presentations based only on the overall pattern of results. Your participation in this research is entirely voluntary, and at any stage of completing this assessment, you will be able to opt to withdraw your responses. At the final step of the assessment, you will be asked if you are happy to submit your responses and consent to your data being used as part of this research. Submission of your responses at this point will be taken as consent for your data to be used within the research.

Should you experience any form of distress whilst completing this survey, please contact your occupational health or counselling service.

If you have any further questions or concerns about the assessment, please do not hesitate to contact the researcher, Emma Rushton, directly on: E: msxelm@nottingham.ac.uk or T: 01159 932 328.

Please respond to all background information questions shown below. This information is only being collected so that patterns in the data can be explored and to help inform efforts for continuous development within your Trust. Please remember that this information will not be disclosed to any member of your Trust.

A. What is your sex?	Male Female Unspecified
B. What is your date of birth?	
C. How long have you worked for your current employer?	Less than 1 year ☐ 1 to 2 years ☐ 3 to 5 years ☐ 6 to 10 years ☐ 11 to 15 years ☐ More than 15 years ☐
D. What is your current job level?	

SECTION 1: WORKPLACE SCENARIOS

This section of the assessment will list some workplace scenarios. Please read each scenario carefully and answer all the questions that follow it. Please answer each question in terms of how you really believe and know yourself to be, and in terms of how you would genuinely respond in this situation.

SCENARIO ONE

You receive a complaint from a member of your team indicating that another member of the team is not performing at their job and is not pulling their weight. The complainant suggests that other members of the team are growing increasingly frustrated by the situation.

SCENARIO TWO

You have just returned from leave and have received feedback from a senior manager that they are angry that you have not completed a task. Prior to going on leave, you had delegated this task to someone in your team. For some reason, the task was neither completed nor submitted. You have now been told that this task must be completed within the next two days. Unfortunately, your team is running at full capacity and has multiple high priority jobs to complete. Allocating any time on the task will ultimately mean that other high priority tasks that you have responsibility for are likely to be delivered late.

SCENARIO THREE

Following a recent senior management meeting, an announcement has been made indicating there are problems with specific working practices across the organisation and that changes are required. Your team is currently under pressure facing increased levels of workload and performance issues. You have been told by your manager of the need to change working practices and have been given just four weeks by which to implement the necessary changes. As far as you are aware, the changes required will have a significant impact on your team and is likely to cause further performance problems.

Very unlikely	Unlikely	Neither unlikely nor likely	Likely	Very likely
1	2	3	4	5

I would set time aside to resolve the matter	1	2	3	4	5
I would take time to review all the necessary information before deciding on what to do next	1	2	3	4	5
I would use this as an opportunity to try to get people to work together better	1	2	3	4	5
I would treat all staff fairly	1	2	3	4	5
I would look to solve the problem in a way that reflects a concern for everyone's well-being	1	2	3	4	5
I would offer to make myself available to all staff members involved to discuss this matter	1	2	3	4	5

Very unlikely	Unlikely	Neither unlikely nor likely	Likely	Very likely
1	2	3	4	5

I would take steps to get everyone involved to put across their views	1	2	3	4	5
I would make my views known to everyone concerned about what needs to be done to resolve the matter	1	2	3	4	5
I would decide what I think is best and simply tell people what to do	1	2	3	4	5
I would let people know exactly how I feel about the situation	1	2	3	4	5
I would impose my own point of view about how the situation needs to be handled or resolved	1	2	3	4	5
I would criticise someone if I thought they were in the wrong	1	2	3	4	5
I would avoid blaming anyone	1	2	3	4	5
I would actively seek out as much information as possible from as many sources before coming to a decision	1	2	3	4	5
I would make this a priority given other tasks or responsibilities	1	2	3	4	5

SECTION 2: WORK EXPERIENCE

The next set of questions ask about your experience of the organisation and your job in general. Please answer all questions that follow indicating your response using the scale shown. You should select '0' if the statement does not reflect your experience, or '4' if the statement accurately describes your experience at work.

Never	←—————→			All the time
0	1	2	3	4

Experiencing a real sense of community within my team	0	1	2	3	4
Experiencing a real sense of community within this workplace	0	1	2	3	4



Never					All the time
0	1	2	3	4	
Sharing a genuine personal connection with co-workers	0	1	2	3	4
My work colleagues (peers) will make themselves available if I need their support to deal with work-related issues	0	1	2	3	4
Sharing a strong sense of purpose with co-workers about what is important in the job	0	1	2	3	4
Feeling a constant pressure to keep working	0	1	2	3	4
Having to work very fast to complete my tasks	0	1	2	3	4
Having too many things to do and not enough time in which to do them	0	1	2	3	4
Doing work that I find emotionally demanding	0	1	2	3	4
Receiving recognition from others for the work I do	0	1	2	3	4
Feeling that my work is appreciated	0	1	2	3	4
Feeling that my work efforts go unnoticed	0	1	2	3	4
Having control over how I do my work	0	1	2	3	4
Being able to plan/approach my tasks the way I think is best	0	1	2	3	4
Having influence over my job tasks	0	1	2	3	4
Understanding how my work contributes to the aims of this organisation	0	1	2	3	4
What I do at work is worthwhile to this organisation	0	1	2	3	4
I am able to attend the training that I need to perform well in my role/job	0	1	2	3	4
Having a work environment (e.g. space, privacy, noise, comfort, facilities etc.) that is helpful in getting the job done	0	1	2	3	4
Having to work with substandard, malfunctioning or worn out equipment of some kind (e.g. vehicles, uniform, communications technology, computers)	0	1	2	3	4

Never					All the time
0	1	2	3	4	
My immediate line manager or supervisor will make themselves available if I need their support to deal with work-related issues	0	1	2	3	4
Not having all of the information I need to meet my job demands when I need it	0	1	2	3	4
Senior managers/management will make themselves available if I need their support to deal with work-related issues	0	1	2	3	4
People not pulling together collectively in this organisation	0	1	2	3	4
Doing a job that I find to be meaningful	0	1	2	3	4
Feeling that my work really makes no difference to the organisation	0	1	2	3	4
I am clear about the purpose of my job	0	1	2	3	4
I view my job as contributing to my personal growth	0	1	2	3	4

SECTION 3: PERSONAL STYLE

This section looks at personal style. Please indicate how strongly you agree or disagree with the statements listed below. Please answer in an honest and candid manner.

Strongly disagree							Strongly agree
1	2	3	4	5	6	7	
I feel confident contributing to discussions about the organisation's strategy	1	2	3	4	5	6	7
I feel confident in my ability to deal with poor performing employees	1	2	3	4	5	6	7
I feel confident in my ability to get the best performance out of my staff	1	2	3	4	5	6	7

Strongly disagree							Strongly agree	
1	2	3	4	5	6	7		

I feel confident in my ability to resolve interpersonal conflict between staff	1	2	3	4	5	6	7
I feel confident in my ability to challenge senior management when necessary to do so	1	2	3	4	5	6	7
I feel confident that I can successfully put across my point of view on work matters	1	2	3	4	5	6	7
I feel confident that I can overcome any obstacle and/or setback that impact on the performance of the people I manage	1	2	3	4	5	6	7
I feel confident that I can give negative performance feedback to my staff when necessary	1	2	3	4	5	6	7
I feel confident that I can remain positive about my role despite obstacles and/or setbacks	1	2	3	4	5	6	7
I feel confident that I can quickly change my approach should the situation demand it	1	2	3	4	5	6	7
I feel confident that I can motivate all my staff	1	2	3	4	5	6	7
I feel confident that I can obtain the support of my work group when I need to	1	2	3	4	5	6	7
I approach this job as if "every cloud has a silver lining"	1	2	3	4	5	6	7
I often feel unsure about how best to tackle the difficulties I face at work	1	2	3	4	5	6	7
I often feel unprepared for situations I have to deal with at work	1	2	3	4	5	6	7
I often find myself worrying about work issues	1	2	3	4	5	6	7
When I hit difficulties at work I'm able to re-think and find a way to solve the problem	1	2	3	4	5	6	7

Strongly disagree ← → Strongly agree						
1	2	3	4	5	6	7

At the moment, when problems arise at work, I have the flexibility to cope with them	1	2	3	4	5	6	7
When faced with setbacks at work I sometimes feel like I'm a failure	1	2	3	4	5	6	7
I rarely feel discouraged by events at work	1	2	3	4	5	6	7
I usually feel sure of my judgement in a crisis at work	1	2	3	4	5	6	7
I have the self-discipline to make sure I finish the work tasks that I start	1	2	3	4	5	6	7

Thank you for taking the time to complete this assessment.

If you are happy for your responses to be used to inform the research being carried out, please 'submit' your responses using the button shown.

Appendix B: Competency framework

BUILDING RELATIONSHIPS (BR)	
What it is: Refers to the nature, level and quality of interaction and collaboration between the trainer and the learner. At least three factors are important for the strength of the working alliance. The first is associated with the bond that is established between the learner and trainer – this we call ‘orientation to people’; the second factor relates to the learning climate that is established through issues associated with respect, equality and involvement – this we call ‘climate: working relationships’ and the third factor is associated with the underlying professional and ethical ‘principles and values’ that motivate the trainer and are considered critical for transforming delegates and achieving the training objectives and outcomes. Why is it important? The stronger the working alliance the more positive the outcomes of training will be.	
BR1: ORIENTATION TO PEOPLE	
i.	Trainer makes learners feel comfortable and at ease both by what they say and do (i.e. welcoming learners into the classroom, smiling at delegates, etc.)
ii.	Trainer is approachable, speaking with learners in an informal and supportive manner; sometimes using humour in a way that supports interactions and engagement
iii.	Trainer is eager to make learners feel safe and remove any anxiety about the training by taking the time to discuss what the training involves
BR2: CLIMATE: WORKING RELATIONSHIPS	
i.	Trainer fosters ownership in learners through examining learner needs during training and demonstrating how the training will address these needs
ii.	Trainer considers delegate knowledge and experience to be integral for the success of the training, involving all learners and treating them as equals
iii.	Trainer is willing to share their knowledge and experiences and does not use knowledge in a way that fosters a power imbalance between the learner and trainer
BR3: PRINCIPLES AND VALUES	
i.	Trainer approaches the training with the health and safety of the learner, client and organisation in mind
ii.	Trainer has a genuine desire to make a difference to individual and organisational practices with respect to the topic/domain under discussion

DELIVERING LEARNING (DL)	
What it is: This competency refers to the technical training skills considered critical for the delivery of learning and considered important for trainers to possess and/or develop. These competencies refer to the trainer's ability to make use of tools, tactics and strategies to support the translation of knowledge (i.e. knowledge application) and enable delegate learning both in the classroom and transfer environment. Why is it important? Technical training skills are critical to ensuring a positive learning environment can be developed, monitored and sustained.	
DL1: PREPARING THE LEARNING ENVIRONMENT	
	i. Trainer proactively engages in assessing training needs (at the individual and organisational level) and in the design and development of the training programme(s) ii. Trainer reviews delegate information prior to the training to consider any context specific issues or special/knowledge or skill requirements iii. Trainer ensures training materials, facilities and delegates are prepared well in advance of training
DL2: MANAGING THE LEARNING ENVIRONMENT	
	i. Trainer obtains delegates expectations at the very start of the course and manages them throughout ii. Trainer demonstrates an ability to proactively manage delegates and keep to time to enable the expected activities and workshop components/modules to be delivered and completed iii. Trainer schedules in ample time for breaks, reflection, action planning and workshop evaluations
DL3: DELIVERY STYLE	
	i. Trainer can adapt their delivery style (e.g. language used, pace and speed of delivery and demonstration) to suit the composition of the group ii. Trainer is flexible in their approach to delivery (e.g. ordering of content, type and amount of group work) and can successfully achieve the course objectives and outcomes in line with the needs of the learner iii. Trainer appears confident in their ability (e.g. relaxed body posture, calm teaching style, clear communication style, etc.) to present the material and transfer information to others
DL4: ENGAGING LEARNERS	
	i. Trainer demonstrates active listening by paraphrasing and clarifying delegate responses to support discussions and exploration of issues ii. Trainer will involve all delegates by asking open questions and seeking responses to any topics or issues under discussion iii. Trainer does not just give answers but is eager to support and help learners to arrive at an answer or solution to a problem by using open and probing questions to allow the delegate to think through and explore an issue for themselves

DL5: MONITORING AND FEEDBACK	
i.	Trainer proactively monitors delegates (e.g. through observations, discussions, use of questioning techniques, etc.) to establish levels of learning
ii.	Trainer appreciates the differences in delegate knowledge, skills and abilities and will utilise a range of tactics (e.g. individual and group work, mixed pairings, discussions, etc.) to ensure delegate learning is facilitated and/or performance standards are achieved
iii.	Trainer will provide both developmental and motivational feedback to support learning and development
DL6: MANAGING INTERPERSONAL AND GROUP DYNAMICS	
i.	Trainer can manage disruptive learners constructively by speaking with them in private, establishing the cause of their behaviour and seeking to engage them within the learning session
ii.	Trainer can balance group interactions and ensures that the contributions of less vocal delegates are considered and valued
iii.	Trainer oversees and manages delegate interactions sensitively by ensuring delegates do not lose face in front of other learners

KNOWING & COMMUNICATING (KC)	
What it is: Knowledge and communicating refers to the trainer’s ability to convert sound knowledge into useable tactics and strategies and to communicate, demonstrate and translate these tactics and strategies into the day-to-day work reality of the delegates. Why is it important? Without translation delegates are unlikely to engage fully with the material. Therefore, little change is likely in delegates’ knowledge, attitudes, beliefs and behaviours.	
KC1: DEVELOPING KNOWLEDGE	
i.	Trainer demonstrates knowledge and understanding of the topic/content area related to their specific programme of training
ii.	Trainer demonstrates awareness and understanding of any national developments, policies and guidance in relation to the topic/content area both in general terms and specifically for the sector in which they operate
iii.	Trainer can demonstrate an awareness and understanding of the delegate work context as well as any corporate practices and procedures associated with the topic/content area
KC2: KNOWLEDGE APPLICATION	
i.	Trainer facilitates delegate learning through repeated practical/oral demonstrations
ii.	Trainer introduces scenarios and relevant examples and experiences to facilitate and support delegate understanding and learning
iii.	Trainer does not use jargon and will use language (e.g. words, terms) that make sense to delegates and supports their comprehension and development

ADAPTING & COPING (AC)
What it is: This refers to the trainer’s ability to motivate delegates and facilitate a change in attitudes, beliefs and behaviour. Trainers must develop and demonstrate an ability to constructively manage learner emotional challenges and demands, overcome learner apathy and motivational issues, as well as constructively deal with negativity and contradictory views. Trainers must demonstrate a belief and passion for the topic and be driven to develop and contribute to individual, team and organisational knowledge and learning. Why is it important? Delegates need to be challenged and taken out their comfort zone in a safe and structured way as a way of enabling them. Trainers must continuously seek to develop their competencies and their resilience to enable them to effectively meet the demands of the role.
AC1: MEETING CHALLENGE
i. Trainer can use concrete examples of the actions and initiatives already underway within the organisation to positively address/tackle the topic/content area ii. Trainer can demonstrate evidence of the value of current initiatives that are already underway iii. Trainer is willing to challenge negative staff views in a supportive and encouraging manner
AC2: PASSION
i. Trainer is energetic and enthusiastic about what they are doing ii. Trainer focuses on achieving training objectives and outcomes and believes that the results are achievable iii. Trainer demonstrates a genuine interest in the topic (e.g. wider reading, discussions, publications) and is committed to making a difference to people’s lives
AC3: COMMITMENT TO IMPROVEMENT AND LEARNING
i. Trainer is open to change and is proactive in their own development by continually striving to enhance and improve their own knowledge, skills and abilities through research and practice ii. Trainer contributes to individual, team and organisational learning through knowledge development and sharing iii. Trainer is open to feedback and constructive criticism and will use this information to improve their own learning and professionalism

Research Project: Information sheet for participants

Scenario-based training (SBT)

This research project aims to explore the impacts of a one-day leadership training programme which is being run across several Trusts. The idea is that through evaluating this SBT programme, this may help inform leadership development and training across organisations. Anyone attending this programme as a learner will be able to offer their views and help contribute to its evaluation. Participation in the programme and this research is entirely voluntary, and participants can withdraw at any point, without having to provide a reason.

How does it work?

Anyone with first line management/leadership responsibility can sign up to join a leadership training programme. Once you have completed the one-day training programme, you will be provided with access to the online SBT system and can use the various resources contained within the system to help consolidate your learning.

The evaluation

All learners will be asked to participate in the evaluation of the training programme through completing a series of evaluation questionnaires. This will take place at three different time points; before training, immediately after training and again 6 months following attendance at the training course. The aim is to explore the impacts the training has on several outcomes. Once again, participation is voluntary, and your individual responses will not be made identifiable; results will be presented back in an aggregated format. Submission (return) of your completed evaluation questionnaires will be taken as consent for your data to be used in this research. Your data will be used as part of an evaluation study to establish the value and outcome of the training within your organisation. In addition to this, the data will also be used as part of a research programme for a higher education degree. Please be assured that all data collected will be treated with the utmost confidentiality and respect and no access will be granted to anyone outside of the research team.

Furthermore, some participants will also be asked to complete an online assessment called the Supportive Manager Behaviour Index (SMBI). This involves completing a self-assessment, as well as selecting a minimum of three followers who will also complete the assessment and rate you against the different measures. Once again, completion is entirely voluntary; your scores will be kept confidential and all follower data will be anonymised. The data will be used for research purposes to inform our understanding of the components influencing leadership. Once again, submission of this assessment is taken as your consent to participate in this research.

Outcomes of this study will be made available to all participants as a report. If you require further information, please contact Emma Rushton: E: msxelm@nottingham.ac.uk, T: 01159 932 328.

PRE-COURSE EVALUATION

This questionnaire has been designed to support the evaluation of the ‘Supportive Leadership and Management Behaviour’ training programme. This questionnaire forms one small part of the overall evaluation being applied to this programme. Capturing your personal views and experiences about the training is critical to informing the future development and roll out of this training. In addition, the evaluation data will be used to inform research into leadership and leadership training which is being conducted as part of a higher education degree at the University of Nottingham.

The training has been developed as a ‘train the trainer’ programme for your Trust. It is important that delegate views about the training are captured so that continuous improvements can be made. Everyone’s views are important and valuable.

Participation is **entirely voluntary, but we do need your help**. This questionnaire should take between 5-10 minutes to complete. In completing the questionnaire please be **honest and frank**; there are no right or wrong answers. No one from your Trust will see any of the completed questionnaires, hence all responses remain **confidential**. Feedback will be in the form of reports or presentations based only on the overall pattern of results.

The completion and return of this questionnaire will be taken as an indication of your consent to participate in this research. Once you have submitted your responses, they will be passed to the researcher at the University of Nottingham where the data will be analysed and handled with utmost confidentiality and respect. Databases are stored securely and no access will be granted to researchers other than those on the research team.

Should you experience any form of distress whilst completing the questionnaire, you should approach your local occupational health or counselling service, or if you have any questions or concerns about this questionnaire or the study being carried out, please contact the researcher directly: Emma Rushton (E: msxelm@nottingham.ac.uk, T: 01159 932 328).

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To assist us in this process and to help us accurately evaluate the training please complete the details (A-E) in the boxes below: **Please remember that this information will not be disclosed to any member of your Trust and will only be used for the purpose of matching your questionnaires over time (i.e. Time 1, Time 2, Time 3)**

A. Please provide your initials	
B. What is your date of birth?	
C. Please enter today's date:	
D. Please circle one response:	Male Female Unspecified
E. Please enter your Organisation name:	

SECTION 1: LEADER CAPABILITY PERCEPTIONS

Listed below are five scenarios that leaders/managers might have to deal with as part of their job role. How certain are you that you have the **capability** to deal with each scenario listed in a supportive way?

Using the scale shown, please indicate your level of confidence (capability) for dealing with each situation by selecting one number (0-10) for each scenario. Please answer each scenario in terms of your CURRENT level of confidence.

Considering each of the situations below and given your current level of knowledge and skills, what is your current level of confidence (capability) for dealing with each scenario? Please note, this is different from your general level of self-confidence as this refers to your confidence for dealing with each specific scenario.

- 1. Where one member of your team comes to see you, and complains that another member of the team is not performing their job satisfactorily and that as a result they are having to pick up the other person's work. They claim that others within the team have noticed this issue and are muttering that this is unfair.**

[illegible]

2. Where you have a member of staff who is regularly off sick but always within the period of self-certifiable absence/sickness. Following a referral to occupational health you have just received a report from them which says there is no underlying cause to the periods of absence.

Not at all confident ←————→ Completely confident

0	1	2	3	4	5	6	7	8	9	10

3. Where, during a period of organisational change and development, it has become necessary for two teams to become merged into one new one. This has led to concerns amongst staff regarding job security. You are responsible for making the merger happen as efficiently as possible.

Not at all confident ←————→ Completely confident

0	1	2	3	4	5	6	7	8	9	10

4. Where you receive a phone call from a member of your team, who tells you that she/he is faced with a very irate member of the public who is complaining about the quality of care being given to a very poorly relative. In a trembling voice, you are told that the member of the public is shouting, swearing, finger pointing and clenching their fists and saying that they will not leave until something is done.

Not at all confident ←————→ Completely confident

0	1	2	3	4	5	6	7	8	9	10

5. Where some of those you manage are increasingly complaining that one person within the work group appears to rely on emails and written notes rather than engaging people in face to face communication. The complaint put to you is that the person concerned is not communicating sufficiently and when they do, it is in a way that some people find insulting. No one is questioning the importance of what is being written about but people say they feel the use of email and written notes is impersonal and inefficient.

Not at all confident ←————→ Completely confident

0	1	2	3	4	5	6	7	8	9	10

SECTION 2: GENERAL VIEWS ON LEADER BEHAVIOUR

In your view how 'unsupportive or supportive' is each of the following leader behaviours? Please select one number for each indicator using the scale shown. If you believe a behaviour is very unsupportive then select 1; if you believe a behaviour is very supportive then please select 7.

Very Unsupportive ←————→ Very Supportive

1	2	3	4	5	6	7

6. Demonstrates a genuine interest in your well-being	1	2	3	4	5	6	7
7. Sets demanding expectations for you	1	2	3	4	5	6	7
8. Gives you positive feedback on work performance	1	2	3	4	5	6	7
9. Continuously pushes you to meet performance targets	1	2	3	4	5	6	7
10. Says thank you for a job well-done	1	2	3	4	5	6	7
11. Is consistent from one day to the next in the way she or he manages people at work	1	2	3	4	5	6	7
12. Encourages you to share your views on work matters	1	2	3	4	5	6	7
13. Criticises the effort you put into your job	1	2	3	4	5	6	7
14. Makes himself/herself available to you when necessary	1	2	3	4	5	6	7
15. Appears to treat all staff fairly	1	2	3	4	5	6	7



	Very Unsupportive			Very Supportive			
	1	2	3	4	5	6	7
16. Sets clear expectations about what is required from you	1	2	3	4	5	6	7
17. Is quick to find out who is to blame when things go wrong	1	2	3	4	5	6	7
18. Listens carefully to different points of view before coming to his or her conclusions	1	2	3	4	5	6	7
19. Tends to decide what he or she thinks is best then simply tells people what to do	1	2	3	4	5	6	7
20. Is quick to acknowledge his or her own mistakes	1	2	3	4	5	6	7
21. Appears to understand how their own behaviour/ actions impacts on others	1	2	3	4	5	6	7
22. Is quick to deal with poor performance	1	2	3	4	5	6	7

Thank you for your time and cooperation in completing this questionnaire.

POST-COURSE EVALUATION

(Note: To avoid repetition, only the additional items/sections are shown here i.e. items that have not previously been outlined within Appendix D: Pre-course evaluation questionnaire)

SECTION 1: GENERAL VIEWS ON THE TRAINING YOU HAVE RECEIVED

This section asks for your views about the ‘Supportive Leadership and Management Behaviour’ training you received within the Trust. Using the rating scale shown below please select the most appropriate response for each statement.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

1. I have really enjoyed the training	1	2	3	4	5
2. The training is very relevant to my job	1	2	3	4	5
3. I found the training hard to follow	1	2	3	4	5
4. I am keen to apply what I have learned on the training	1	2	3	4	5
5. The issues were dealt with in as much depth as the length of the course allowed	1	2	3	4	5
6. In my opinion, the planned objectives were met	1	2	3	4	5
7. The training was realistic	1	2	3	4	5
8. The training enabled me to share professional experiences with colleagues	1	2	3	4	5
9. The length of course was adequate for the objectives	1	2	3	4	5
10. The training context was well suited to the training process	1	2	3	4	5
11. The trainer(s) were confident in their delivery	1	2	3	4	5
12. The training met my expectations	1	2	3	4	5

Thank you for your time and cooperation in completing this questionnaire.

FOLLOW-UP EVALUATION

(Note: To avoid repetition, only the additional items/sections are shown here i.e. items that have not previously been outlined within Appendix D: Pre-course evaluation questionnaire)

SECTION 2: YOUR VIEWS ABOUT TRAINING

This section asks for your views about the ‘Supportive Leadership and Management Behaviour’ training you received within the Trust. It does not refer to any other training you might have received, e.g. prior to or after this course. Please answer all the questions.

Using the rating scale shown below please select the most appropriate response.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

1. What I learned from the training course has helped me in my job in terms of managing staff	1	2	3	4	5
2. I have applied what I have learned on this course about supportive management behaviour to my job	1	2	3	4	5
3. Looking back, this course was closely related to my job needs	1	2	3	4	5
4. I have received support from my manager/supervisor since attending the course to help me apply my skills	1	2	3	4	5
5. This course has been of great practical value to me in terms of managing staff	1	2	3	4	5
6. I have received support from my peers/colleagues since attending the course to help me apply my skills	1	2	3	4	5

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

7. Before the training, I had a good understanding of how it would support my job-related development	1	2	3	4	5
8. My workload allows me time to try the new things I have learned in training	1	2	3	4	5
9. Employees in this Trust receive praise/reward when they apply newly learned skills on the job	1	2	3	4	5
10. My work colleagues have helped me to use the skills that I learned in this training	1	2	3	4	5
11. My line manager/supervisor has encouraged me to apply the learning from the training to my job	1	2	3	4	5
12. The trainers style helped me to apply my learning on the job	1	2	3	4	5
13. The training has helped me to perform better in my job role	1	2	3	4	5
14. I received feedback from my line manager/supervisor about how well I was doing with the new training	1	2	3	4	5
15. Overall, I am confident in my ability to use the learning from this training on the job	1	2	3	4	5

Thank you for your time and cooperation in completing this questionnaire.