THE INFLUENCE OF LEADERSHIP ON FOLLOWERS' AND LEADERS' RESPONSES TO STRESS: A SOCIAL IDENTITY LENS

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CONTENTS

ABSTRACT

Leadership represents one of the most significant organisational factors that impacts leaders' and followers' psychological outcomes and performance. One such leadership approach is based upon the principles of social identity. Social identities refer to the part of individuals' self-concept associated with internalised group memberships. In other words, social identities are concerned with the extent to which people feel an emotional attachment and a sense of belonging to their organisation. Social identity leadership (SIL) has had an ever-growing presence within the leadership literature. SIL is concerned with how leadership is inextricably connected to group processes and that successful and enduring leadership develops, manages, and advances a shared group identity. Those in leadership positions tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position Therefore, an important, yet often overlooked, component of leadership is to prepare leaders to manage stress. Transactional stress theory (TST) and cognitive-motivational-relational theory (CMRT) of stress and emotion are the two most prominent theories. These theories put forward the notion that stress is a transaction between an individual and their environment, and that individuals appraise stressors in relation to their goals, values, and beliefs.

There is limited research evidence examining the relationship between social identity leadership and stress. The main aim of the thesis is to investigate this relationship from a leader and follower perspective, in three studies, across four chapters. Chapter three (large European retail bank) provides cross-sectional evidence of SIL having a significant negative relationship with stress for followers (n =390) but not leaders (n =204). In addition, SIL added variance in addition to the most prominent leadership approach, transformational

leadership (TL), for followers in relation to stress highlighting evidence for SIL going above TL in the negative relationship with stress. Chapter four built upon this study using the same measures as the previous chapter but was conducted longitudinally and within a different culture (New Zealand's largest cooperative). The results of chapter four suggested that above and beyond leadership, social identity had a significant negative relationship with stress. These data point to the possibility that the sense of belonging to the organisation had a stronger effect in appraising stress for leaders (n = 21) over time than leadership. Chapter five (blue-chip UK food retailer) examined only leaders (n = 91) cross-sectionally and (n = 50) over time and adopted an objective measure of stress (hair cortisol) alongside self-reported stress to investigate the relationship with SIL. Both self-reported stress and objective stress were significantly negatively related to SIL. This supported chapter three's findings and added a valuable contribution by measuring stress objectively in senior leaders of a large organisation. Theoretical explanations and implications of the findings are provided in chapter six relating to leadership (SIL and TL), social identity, social support, and stress including biophysiological markers. This thesis makes an original and significant contribution to social identity leadership, social identity, and stress literatures by examining how these psychosocial factors are related in large cross-cultural organisations.

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GLOSSARY OF TERMS

Winsorized – Winsorized is a method of averaging that initially replaces the smallest and largest values with the observations closest to them. This is done to limit the effect of outliers or abnormal extreme values, or outliers, on the calculation.

Blue-chip Organisation – A well-known, well-established, and well-capitalised organisation that is seen as a leading company within its business sector.

Boiler Room – An office culture of high pressure and stress. A term used to define situations of great individual and collective stress in organisations.

Leader – The position of the process of influencing others through a manner that enhances contribution to the goals set.

Follower – The position of the process whereby people are influenced by leaders in such a way that they contribute to the goals of the leader.

Social Identity – Part of individuals' self-concept associated with group memberships.

Social Support – Support accessible through social ties to other individuals and groups.

Perceived Stress – Perceived threat to an individual cognitive resources.

Objective Stress – A biological stress marker, for example when the stress hormone cortisol is released due to a sense of threat to cognitive resources.

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CHAPTER 1: LITERATURE REVIEW

1.1 Introduction

As a concept in modern society, leadership has led organisations to spend $14 billion on leadership training in the United States alone in 2012 (O'Leonard & Loew, 2012). There has been extensive research on the topic of leadership, with research spanning over 100 years (Avolio et al., 2009). Indeed, leadership has been a subject of interest throughout history as either a positive or a negative in terms of its consequences on people (Burns, 1978). Leadership effects for followers have attracted much theoretical and research attention (see Haslam, 2004; Haslam, et al., 2020), but how leadership influences followers' and leaders' responses to stress are less clear. This chapter critically explores the leadership and stress literature. First, the chapter will analyse early leadership theory and discuss how it has shaped contemporary leadership theories such as the social identity approach. Secondly, this review will focus on the effect leadership has on the stress of leaders and their followers. Third, this chapter highlights stress theories prominently used in the literature that links to leadership. Lastly, the review will highlight the aims and objectives of the thesis.

1.2 Early Leadership Theory

The primary criticism is that leadership scholars create new leadership theories without comparing the validity of existing theories (Derue, et al., 2011). The major approaches to leadership; the great man theory (Borgatta et al., 1954), trait approach (Mann, 1959), situational approaches (Hersey & Blanchard 1969) (including path-goal, situational leadership, contingency theory, and leader-member exchange).

1.2.1 Great Man Theory

Great man theory has been a considerable influence on the proposition of leadership for the past one hundred years. The approach reflected those leaders with certain traits or attributes were viewed as possessing the most outstanding leadership ability. The great man concept suggested that leaders possessed unique traits or characteristics that allowed them to ascend above others and enhance their leaders' ability (Hollander & Offermann 1990b). In other words, great man theory stated that the attributes of influential leaders were seen as instinctive and everlasting, and they applied to various circumstances. However, subsequent events unfolded that this concept of leadership was morally flawed, as was the case with dictatorships within Europe in the early 20th century, thereby challenging the credibility of the great man theory. These great men became irrelevant, and consequently, the growth of business organisations was subdued due to this view (McGregor, 2003). The great man theory led to research that looked at personality traits, physical characteristics, intelligence, and values to differentiate leaders from followers (Porter et al., 1975; Vroom, 1976). One of the critical problems with the great man leadership theory is that not all people who possess natural leadership qualities become great leaders (Spector, 2015). If leadership were simply an inborn quality, all people who possess the necessary traits would eventually find themselves in leadership roles. Understanding what "leadership traits" means requires further examination to understand what early theories describe as good leaders.

1.2.2 Trait Theory

In the early 20th century, psychologists developed intelligence testing to measure individual differences in analytic ability, which was a milestone in psychology to examine individual differences. The findings initially stated that intelligence correlated with leadership which led researchers toward searching for additional non-intellective traits that might be predictors of behavioural tendencies (Chemers, 1997). One hundred and twenty-four studies

were examined to determine the characteristic differences between leaders and followers (Stogdill, 1948). Two major conclusions were made. First, researchers found slightly higher intelligence measures for leaders and positive relationships between leadership, change, extroversion, and dominance. However, studies failed to find traits universally associated with leadership and could be reliably used to predict who might be an emerging leader (Kirkpatrick & Locke, 1991; Lord et al., 1986). Stogdill (1948, p. 63) concluded that "a person does not become a leader by virtue of the possession of some combination of traits". Later, Mann (1959) concluded that although individuals with specific characteristics were more likely to be successful leaders, leaders were not different from followers.

A meta-analysis illustrated that leadership researchers' traits such as intelligence and personality continued favour (Lord et al., 1986). Their research re-examined the relationship between personality traits and leadership perceptions and emergence. In contrast with the conclusions of earlier non-quantitative literature reviews on traits and leadership, Lord and colleagues used the literature investigated by Mann's (1959) review and found that prior research on trait theories was misinterpreted as applying to leader effectiveness when it applied to the relationship between leader traits and leader emergence. They found that intelligence, masculinity-femininity, and dominance were significantly related to followers' perceptions of their leader's effectiveness (Lord et al., 1986). Furthermore, successful leaders' traits include drive, honesty and integrity, the desire to lead, self-confidence, competence, and cognitive ability (Kirkpatrick & Locke, 1991).

This initial focus on intellectual, physical and personality traits that distinguished non-leaders from leaders foreshadowed research that maintained that only minor variances exist between followers and leaders (Burns, 2003). This approach notes that trait theorists

have failed to provide a definitive list of leadership traits that can be changed or acquired in the training and development of leaders (Northouse, 2007). The approach has limitations in failing to acknowledge the situated act of leadership and situational effects upon leaders, who may have traits that enable them to lead in one situation but not in another (Epstein, 1994). The approach is also weak in describing how leaders' traits affect the outcomes of groups and teams in organisations. It is also important to highlight the highly subjective interpretation of the value of individual traits amongst different researchers and writers (Northouse, 2007). The failure to detect the traits that every effective leader had in common resulted in the development of trait theory, as an inaccessible component, falling into disfavour.

1.2.3 Situational Leadership Theory

Inconsistencies in the leadership literature instigated the emergence of contingency approaches to leadership to account for differences found across different situations. Such as when leadership emerges due to the needs of the situation or environment people are within. Characteristics of the leader in power and the situation all interact to determine what type of leadership is needed and its effectiveness (Yukl, 2012). Contingency and situational theories examine both the tasks and the follower characteristics to specify what behaviour is required of influential leaders. The circumstance in which "leader-follower" interaction plays a significant part in the leadership process. Encapsulated in the situational leadership approach is the quality of relationships, tasks, and activities to be performed, perceptions of the leader based on history, the motivation of both the leader and the follower, and personal characteristics influencing the situation (Hersey et al., 1982). Several contingency and situational theories exist, but perhaps the most commonly researched were contingency

theory of leadership (Fiedler, 1967) and situational leadership model (Hersey & Blanchard, 1969).

Fiedler's contingency model proposes that leader effectiveness is a function of the match between the leader and specific situational factors, including position power, task structure, and leader-member relations. Fiedler's model differentiates between task-oriented and relationship-oriented leadership styles and measures ratings of the person with whom employees are least able to work. Fiedler found that the effectiveness of the leader-follower interaction was contingent upon the factors of leader-follower relationship, task structure, and leadership position. If these factors were all high or low, it was determined that a task-centred leader would be most effective. However, if the factors were mixed, an employee centred leader was found to be most effective (Fiedler 1967). Further, Fiedler argued that leaders could not adapt their behaviour to changing circumstances. If a leader's style is not appropriate for the specific situation, the leader will not be successful, and an organisation must change the leader. However, most contemporary theorists believe that leaders can adjust their styles. A meta-analysis on the relationship between leader behaviour and leader effectiveness proved to show a lack of evidence to suggest there was a strong statistical correlation between the two factors (Strube & Garcia, 1981). Instead, the relative effectiveness of these two elements often depended on the task's context.

These models have helped develop an understanding of the complex nature of leadership. Although contingency and situational theories dominated leadership research for decades, several writers have questioned the methods used to test these theories (Yukl, 2012). Meta-analysis research on the effects of participation in decision making on satisfaction and productivity failed to support the contingency model predictions (Miller & Monge, 1986).

Furthermore, what these studies failed to integrate leader behaviours or consider whether the effects were independent of followership (Fielder, 1967; Hersey & Blanchard, 1969). The social exchange between leader and followership needs to be highlighted to understand more contemporary leadership theories (Kibbe, 2019).

1.2.4 Transactional Leadership Theories

Transactional theories and models describe a process-oriented exchange between leaders and followers. The transactional models focus on the follower's perceptions of the leader's actions (Hollander & Offermann, 1990a). The concern for process stems from the social exchange between leaders and followers as a function of effectiveness (Shaw & Costanzo, 1982). These models emphasise persuasive influence instead of compelled compliance. This is important to understand as it illustrates leadership as an influential action that the follower perceives rather than being ordered. It highlights the social nature of leadership and its complex dynamic which led to developing a transactional leadership model and, in its context, coined the term idiosyncratic credit (Hollander, 1958). Idiosyncratic credits are often defined as a tit-for-tat exchange. In other words, you do something for me, and you will receive something in return. Furthermore, it explained that leadership was a social exchange transaction between leaders and followers where "legitimacy" was the currency of the exchange (Hollander, 1958). To have a successful transaction, the leader must provide direction, guidance, technical knowledge, and recognition of followers' inputs. In turn, followers increase their receptiveness and add legitimacy to the leader's influence (Hollander, 1992b).

By demonstrating competency, assisting the achievement of group goals, and conforming to group norms, leaders demonstrate commitment to the group and earn credits

(Chemers, 1997). By obtaining credits, the leader gains latitude to explore new and perhaps non-normative ideas, methods, and courses of action, all of which can potentially lead to innovations. Overall, the successful employment of the idiosyncrasy credit exchange leads to legitimacy in shaping subordinates' perceptions. Other relationships and influence-oriented theories include the leader-member exchange theory. According to implicit leadership theory, a leader's behaviour will not be effective unless perceived as a leader (Calder, 1977). Leader-member exchange theory proposes that leaders have in-groups of trusted individuals within their organisation (Graen & Ginsburgh, 1977). According to this theory, leadership resides in the quality of the exchange relationship developed between leaders and their followers. Subordinates in the out-group are supervised through a more formal authority process. Leader-member exchange has developed vastly in recent years building upon early leadership theory. More up to date research has highlighted those high-quality exchanges are characterised by trust, liking, and mutual respect, and the nature of the relationship quality has implications for job-related wellbeing and the effectiveness of employees (Dulebohn, et al. 2012). Through further development of this theory still resides as a transactional leadership theory that more contemporary theories challenge.

1.2.5 Summary of Traditional Leadership Theories

In sum, early theory advanced understanding of leadership but conceptualised individual characteristics and environmental factors separately rather than adopting an interactional framework. As a development, bringing together the focus on distinctive personality qualities and the situational perspective, early leadership theory culminated in Fiedler's (1967) contingency theory. Fiedler's (1967) internationalist perspective asserted that the success of a leader's behavioural style depended upon the favourability of the

situation to that style. In other words, leaders' effectiveness would be contingent on how well their leadership style and characteristics fit the context. However, by the great man and situational approaches, empirical support for contingency theory has been argued to be mixed and highly variable (Haslam et al., 2020). Fiedler (1993) concluded that contingency theory fails to explain why certain leadership styles are more effective in some situations than others; termed the 'black box problem'. While Northouse (2021) has argued the contingency theory is difficult to apply in real-world settings mainly because it contends the styles demonstrated by leaders are stable and enduring. In other words, an individual's leadership style is proposed to be the same across contexts, which may be unlikely given that effective leadership typically involves an adaptation of styles and behaviours to the context.

To contribute to a greater understanding of how leaders and leadership processes develop, and change, relevant theory and research should reflect both the multilevel and the longitudinal nature of leadership. This longitudinal, multilevel focus means that intrapersonal and interpersonal processes are central to leadership over time. Leadership involves a complex interaction between people and their social and organisational environments (Day, 2000). Therefore, simply linking a leader's performance with the number of months a person has been in a position within an organisation is insufficient in encapsulating the effects of something so difficult to describe as experience (Bettin & Kennedy, 1990). Kozlowski and Ilgen (2006) make the point that general leadership theories have “useful but indirect implications for team effectiveness” because they neglect features of the team’s task content and team leadership processes. Furthermore, it has been noted that this fails to account for the development of the leader’s effectiveness (Yukl & Van Fleet, 1992). More recent meta-analytic evidence suggests that leader behaviours are essential predictors of leadership effectiveness (Judge & Piccolo, 2004) and how leadership effectiveness can change over

time, highlighting the pertinent role of development programmes to enhance leadership (Epitropaki & Martin, 2004). In an organisational context, leadership is crucial as it affects team performance and work results (Chen & Kanfer, 2006). This development of leadership needs to develop and function within a social context of the groups they work within (Olivares et al., 2007). Understanding the social context of leadership is vital in understanding leadership behaviours, effectiveness, and behavioural outcomes of their followers.

1.3 Contemporary Leadership Theories

New-genre theories refer to literature that has dominated leadership research since the 1980s, including charismatic, inspirational, transformational, and visionary leadership (Bass, 1998; Bryman, 1992). New leadership approaches emphasise symbolic leader behaviour, visionary and inspirational messages, feelings, ideological and moral values, individualised attention, and intellectual stimulation. Charismatic and transformational leadership theories have turned out to be the most frequently researched theories since the early 1990s (Judge & Piccolo 2004), with the accumulated research showing that charismatic and transformational leadership is positively associated with leadership effectiveness and several important organisational outcomes across many different types of organisations, situations, levels of analyses, and cultures (Avolio et al., 2004).

Transformational leadership is described "as an extension of transactional leadership, but with greater leader intensity or follower arousal" (Hollander & Offermann, 1990a). The study of transformational leadership is rooted in Weber's (1946) notion of a leader. Leaders are seen as active transforming agents, changing the outlook and behaviour of their followers (Burns, 1978). Transformational leaders may employ one or more of the core competencies

of transactional leadership to obtain more significant outcomes. Factor analytics have recognised four critical components of transformational leadership (Bass, 1985); (1) charismatic leadership or idealised influence; inspirational motivation; intellectual stimulation; and individualised consideration. First, idealised influence characterises the extent to which an individual engages in behaviours that encourage followers to identify with him or her (e.g., high levels of enthusiasm for the team) (Judge & Piccolo, 2004). Second, inspirational motivation describes the extent to which an individual puts forth a vision meant to inspire followers (e.g., aiming to win a championship at the end of the season). Third, intellectual stimulation characterises the extent to which individuals challenge existing assumptions and encourage others to take risks (e.g., engaging followers in team plans and strategy). Finally, individual consideration describes the extent to which an individual seeks to meet the individual needs of his or her followers (e.g., being sensitive to the needs of different players on a football team) (Judge & Piccolo, 2004). However, further research on transformational leadership asses six transformational leadership facets: Identifying and articulating a vision, high-performance expectations, providing an appropriate role model, providing individualised support, fostering the acceptance of group goals and intellectual stimulation (Podsakoff et al., 1996). Providing an appropriate role model subsumes those transformational leaders represent a role model for their employees consistent with the leader's values. Leaders engender trust and set a positive example for others to follow (Podsakoff et al., 1990). By representing an ideal role model for employees, leaders may create aspirations that seem unrealistic for their followers (Stouten et al., 2013). Thus, the leader might appear unreachable or unapproachable.

Providing individualised support as a leader entails identifying and respecting their followers' desires. Leaders are fretful about personal feelings while allocating tasks and

setting objectives. The core characteristics of this leadership aspect are offering coaching and treating followers as unique individuals (Hater & Bass, 1988), and paying attention to individual differences (Yammarino et al., 1993). Personal support helps followers to establish clarity about expectations and performance. Fostering the acceptance of group goals portrays a leader creating an identity to motivate the group to work towards a common goal or objective. By setting group goals, leaders refine followers' expectations and clarify reaching objectives. Transforming personal concerns into an effort to achieve group goals and handle challenging situations are important leader initiatives. They help followers cope with stress and its effects (Bass & Riggio, 2006).

Moreover, a supportive team atmosphere helps employees expand their pool of informants for external input to clarify role ambiguities (Rizzo et al., 1970). Finally, intellectual stimulation leaders encourage their followers to question inflexible thinking patterns, thus stimulating constructive reasoning and idea generation. These strategies aim at supporting followers by providing innovative solutions to problems. Leaders provide informative support and enhance followers' self-efficacy by enabling autonomy (Franke & Felfe, 2011). This includes the communication of meaning and purpose of potentially challenging situations that yield reframing stressful experiences (Rowold & Schlotz, 2009).

Transformational leadership focuses on developing followers to perform leadership roles (Avolio, 1999). Transformational leaders motivate and inspire subordinates by providing meaning and challenge by emphasising teamwork. Leaders ensure an open exchange of ideas by allowing mistakes, soliciting new problem-solving methods, and evaluating followers' processes rather than just situational outcomes. The leader acts as a coach, teacher, and mentor for each subordinate, providing individual attention and feedback,

both positive and negative (Bass, 1998). Transformation of leadership has become an influential theory in sport and exercise as it is used to explain the success of a range of leaders, whether managers, coaches, captains, or athletes (Price & Weiss, 2013). Along this line of thinking, there is an importance of research that shows that sports groups and teams' function better to the extent that their leaders are perceived to display leadership behaviours (Turnidge & Cote, 2018).

Transformational leaders motivate and enable followers to accomplish more than expected, set increasingly higher goals, achieve higher standards and exceptional performance (Bass & Avolio, 1990). Several meta-analyses support the positive link between transformational leadership and performance (DeGroot et al., 2000; Lowe, Kroeck, & Sivasubramaniam, 1996; Patterson et al., 1995). One example of transformational leadership's effect on performance is that perceived transformational leaders lead followers to be more productive at an individual level and a team level and within a working environment (Thomas, 2016). Further, Yukl (2006) describes transformational leadership as "inspiring, developing and empowering followers". Howell and Frost (1989) suggested that transformational leaders' behaviours in a business environment are positively related to followers performing at a higher level and having greater job satisfaction. Transformational leaders want to constantly challenge followers to higher levels of performance (Bass & Riggio, 2006). Both practice and research have established that transformational leadership is related to increased organisational effectiveness (Judge & Piccolo, 2004) and employee wellbeing (Kelloway & Barling, 2010). However, Yukl (1999) highlighted limitations within transformational leadership. He states transformational leadership would be sounder in theory if the critical influence processes were identified more clearly and explained how each type of behaviour affects each mediating variable and outcome.

Furthermore, research has overlooked the significant fact that leaders lead groups of people and are themselves members of these groups (Van Knippenberg & Hogg, 2003). Therefore, it can be stated that transformational leadership behaviours can account for some but not all changes within leadership effectiveness and development. Transformational leadership is beneficial for performance and when considering social support, efficacy beliefs, negative emotions, and stressor appraisals (Lyons & Schneider, 2009). As previously stated, leadership development research fails to account for changes on a team and social level (Yukl, 2013). However, as van Knippenberg and Sitkin (2013) point out, this theoretical framework has some significant conceptual shortcomings which limit its capacity to explain how leadership works. Indeed, by assessing perceptions of transformation and leadership behaviour, we learn relatively little about what precisely allows leaders to be transformational. For this reason, the challenge of explaining the impact of those various behaviours and processes that serve as the basis of a leader's ability to inspire greater motivation and performance in followers remains largely unresolved (Haslam et al., 2020).

Like transformational leadership, the concept of charismatic leadership is an outgrowth of Max Weber's description of a form of influence based on follower perceptions that the leader possesses specific desirable characteristics. Weber proposed that charisma could occur when a leader with certain qualities emerges to propose a new vision (Weber, 1946). Charismatic leaders exert enormous power and influence over followers, especially followers searching for direction or guidance during crisis times. Leadership is considered charismatic when it "inspires the follower with challenge and persuasion, providing a meaning and understanding" (Bass 1996). House (1977) developed a theory of charismatic leadership based on the premise that charisma has a distinct effect on followers. Charismatic leaders tend to be self-confident and achievement-motivated; they also desire to assert

influence and possess strong convictions. These types of leaders advocate change and can mass followers to support their vision. Other theories are centring on charisma focus on attributes (Conger & Kanungo 1987), self-concept (Shamir et al. 1993), and social contagion (Meindl, 1990).

One of the latest new-genre approaches to leadership is the framework proposed in authentic leadership theory (Avolio & Gardner, 2005). Authentic leaders are described as being self-aware, showing openness and clarity regarding who they are, and consistently disclosing and acting in accordance with their values, beliefs, motives, and sentiments (Walumbwa et al., 2008). Based on this view, there are four components of authentic leadership: self-awareness, relational transparency, balanced processing, and an internalised moral perspective. This theory holds that high levels of leader self-awareness, self-regulation, and transparency, among other things, will increase the leader's positive effects on their followers (Banks et al., 2016). Researchers have expressed concerns regarding the contribution of Authentic Leadership theory to the leadership literature (Cooper et al., 2005; Yammarino et al., 2008). For example, Authentic Leadership overlaps conceptually with many of the other positive theories of leadership (Avolio & Gardner, 2005). Indeed, Avolio and Gardner (2005) suggest that Authentic Leadership can incorporate many leadership theories, including transformational, charismatic, servant, and spiritual, along with other forms of positive leadership. With such conceptual overlap, concerns have emerged about whether Authentic Leadership is sufficiently distinct from these theories (Avolio & Walumbwa, 2014). The distinctiveness between these theories, both theoretically and empirically, is essential. Authentic leadership and other positive leadership theories could suggest that authentic leadership theory may be the same theories but labelled as something new and contemporary (Spell, 2001). This explains the commonalities between leadership

theories based upon traditional theories highlighted before in this review. However, it does not discount newer theories that provide a richness to the literature in understanding how leadership affects outcomes variables within leaders themselves and their followers. Another issue concerning the measurement of leadership variables in the current study is multiple team membership (O'Leary & Woolley, 2011), where employees have different potential leaders that impact their work. Therefore, future research might explicitly assess multiple team membership of participants to examine how the leadership of multiple teams impacts employees.

A meta-analysis by Avolio and colleagues compared the existing literature in which researchers manipulated new-genre leadership with studies that manipulated traditional theories (Strube & Gracia, 1990, Judge & Piccolo, 2004, Avolio et al., 2009). Results showed that new-genre approaches to leadership had appreciably more significant effects than those based on traditional leadership theories for affective and cognitive dependent variables. In contrast, traditional theories had a slightly more prominent effect on more proximal behavioural outcomes. These findings appear consistent with the core focus of these theories. New types of theories, such as transformational leadership, are believed to have vital affective and cognitive components. They are thus positively linked to such dependent variables as liking, trust, or intellectual engagement.

However, transformational leadership research is still about identifying individuals who can enable a transformative process within organisations. Research also highlights the dark side of transformational leadership. These dark side effects of leadership have also been observed within the context of follower performance. In a recent study, transformational leadership behaviours promoted followers' creativity but at the same time increased

followers' dependency, which in turn reduced creativity (Eisenbeiß & Boerner, 2013). In general, transformational leadership theory does not explicitly identify situations where transformational leadership is detrimental. However, leaders may possibly exaggerate transforming followers to higher goals so that followers will become burned out (Yukl, 1999). This dark side of transformational leadership is characterised by exploitive behaviours of leaders, which are associated with negative consequences of well-intended behaviours (Harris & Jones, 2018). Hence, we challenge the assumption that the positive outcomes of transformational leadership behaviour unfold in times when followers experience psychological distress (Bass & Riggio, 2006). Therefore, to expand our understanding our understanding of the influence of leadership on stress this thesis will examine the influence of leadership for both the leader and their team members regarding stress.

The models of leadership that have been explored are more sophisticated than those in previous sections of this chapter as the literature starts to address other factors beyond the character of the individual leader (Antonakis & Day, 2018). Where transformational leadership broadens the critical relationship between leader and follower, contemporary theories such as social identity leadership expand on this and extend the focus further. To get the picture of contemporary leadership theories, there needs to be further recognition of the nuances of the theory, such as social identity leadership. This is due to the criticism previously mentioned on how transformational leadership fails to account for the leader being part of their team or, in other words, part of the group processes that make up the team. Therefore, a clearer understanding of the social identity approach is needed as this theory highlights the nature and power of groups.

1.4 The Social Identity Approach

Leadership involves people interacting with and influencing others in the context of a group; leadership has been a critical focus for social psychologists studying social influence and group processes (Hogg et al., 2012). While social psychology essentially turned its back on leadership, leadership research has thrived and expanded exponentially in the organisational and management sciences (e.g., Yukl, 2010). Traditional approaches to leadership do not theorise leadership as a group-membership-based influence process and have not connected well with mainstream social psychological research on social cognition, group processes, social influence, and self and identity (Hogg & van Knippenberg, 2014).

However, since the turn of the century, there has been a significant revival of interest in leadership research within social psychology (Hogg, 2010, 2013). This revival has refocused attention on leadership as a group process (Chemers, 1997). The first published review paper relating to social identity within leadership was the social identity approach built upon an experiment in the late 20th century (Hogg, 2001a). The same year, several other extensions of the theory were published, focusing on emergent leadership (Hogg 2001b), and relating it to analyses of power (Hogg & Reid, 2001). In addition, empirical articles started to appear that more generally examined the role of social identity processes in leadership (e.g., Haslam & Platow, 2001a; Platow & van Knippenberg, 2001). However, the broader social identity approach needs to be fully understood first to understand social identity in a leadership context.

The principle of the theory is that because groups evaluate and define who we are, and influence what we think, feel, and do, and how others perceive and treat us, prototypical members are disproportionately influential over the life of the group (Hogg, et al., 2012). For example, sports fans perceive and treat each other differently due to the team (group) they

follow and support. Social identities refer to the part of an individual's self-concept associated with internalised group memberships (Haslam, 2004). Social identity theory was developed to understand the psychology of intergroup dynamics, particularly on the backdrop of significant social conflicts such as war (Rees et al., 2015). Previous social psychology approaches sought to explain events with references to individual factors such as personality, yet these theories failed to account for the role that social context and group memberships play in such phenomena (Tajfel, 1970). The social psychology experiment of Sherif, Harvey and White (1961), robbers cave, highlighted that intergroup competition transformed friends into enemies. However, the competition element of the intergroup dynamic proved only to be part of the picture. Findings illustrated that in even the most stripped-down of conditions, the mere act of categorising group members was sufficient to encourage individuals to make choices based on in-group favourability (Turner, 1975).

This is important to understand as this created the theory that after an individual is categorised in terms of group membership and have defined themselves in terms of that social categorisation, individuals seek to achieve or maintain self-esteem. This drive for positive distinctiveness means that when people's sense of who they are is defined in terms of social identity (as 'we' and 'us' rather than just 'I' and 'me'), they strive to see 'us' as different from, and preferably as better than, 'them' to feel good about who they are and what they do (Cikara et al., 2011). Several experimental and cross-sectional studies have reported the positive effect of a shared social identity on health and wellbeing (e.g., Haslam et al., 2005, Haslam et al., 2009, Häusser et al., 2012). In particular, a shared social identity is seen to have a stress-buffering effect (e.g., Haslam et al., 2009; Haslam & Reicher, 2006a; Häusser et al, 2012; Wegge et al., 2012). In addition to these effects of social identity on health and wellbeing, it has been argued that social identity is a crucial variable moderating the

effectiveness of social support on stress (Haslam, 2004; Haslam et al., 2009; Haslam, et al., 2012). For example, a study from Frisch et al. (2014) found that emotional support buffered the stress-induced cortisol reaction only when a shared social identity between the provider and recipient of social support had been established beforehand. However, previous studies investigating social identity and wellbeing outcomes, such as stress, either used correlational approaches (Haslam et al., 2005) or focused on the main effects of social identity (Haslam et al., 2009, Haslam & Reicher, 2006). In sum, there is a lack of experimental evidence confirming that shared social identity buffers stress reactions. A different methodology is needed to examine the links between social identity and stress thoroughly. As highlighted by Frisch et al. (2014), measuring cortisol is a new and contemporary approach to biomarking stress levels in conjunction with self-reported levels of social identity. It is not just wellbeing outcomes that have been an essential focus in social identity research. Leadership and other performance-related outcomes have risen within the literature.

Creating a sense of "us" and "we" is positively associated with sports performance (Slater et al., 2018). Social identity refers to the part of a person's conception of themselves that is based on their group memberships and that gives them a sense of "we and "us" (Epitropaki et al., 2016). This is shown across different contexts, such as sport and organisational contexts (Slater et al., 2013; O'Keefe et al., 2019). Therefore, due to its effects on performance, social identity is key to understanding leadership from not just the leaders' point of view but also from followers (Slater & Barker, 2019). The leaders' capacity to mobilise the effort of other group members rests upon their competence to build shared identity content (Slater et al., 2019).

1.5 Social Identity Leadership

Leadership has an identity function largely overlooked in traditional leadership research; people look to their leaders to define their identity. The identity function of leadership is very evident in some contexts (for example, national, ethnic, and political leadership). However, it is also evident in organisational contexts where corporate leaders play a crucial role in constructing and managing their corporation's identity (Balmer, 2008). The key idea is that as group membership becomes increasingly salient and vital to members of the group and members identity more strongly with the group, effective leadership rests increasingly on the leader being considered by followers to possess prototypical properties of the group. Therefore, as group membership becomes increasingly salient, stereotypes of leaders' categories, in general, will have a conversely weaker influence over leader evaluations and leader effectiveness (Lord & Hall, 2003). Group members as followers play a significant role in configuring the characteristics of their group's leadership or even creating leadership itself and are more likely to follow leaders whom they consider best able to construct a group identity that is acceptable to them (Hogg & Tindale, 2008). As people identify more strongly with a group, they pay more attention to information that seems most informative about the group prototype and thus to what and who is more prototypical. In these contexts where group membership is psychologically salient, being perceived to be a highly group prototypical leader makes one more influential and a more effective leader.

The leading contemporary paradigm on a group and social level is the social identity theory of leadership (Haslam et al., 2020). The social identity approach posits that leadership is a multi-dimensional process that focuses on leaders’ capacities to represent, advance, create and embed a shared sense of social identity for group members (Haslam et al., 2020). Successful leadership is a process of social influence that involves encouraging followers to contribute to the shared goals (Steffens et al., 2014). In other words, when a leader acts, not

instructs, in a way that benefits the group they are part of, the group will be motivated to take action on the shared goals. Research illustrates that followers are more likely to approve leaders and be open to their effect, to the extent that they are seen as prototypical figures representing the in-group and its identity (Hogg, 2001a). The main principle is that group prototypical leaders are better supported and more trusted and are perceived as more effective by members than are less prototypical leaders, mainly when group membership is a central and salient aspect of members' identity and members identify strongly with the group (Hogg et al. 2012).

These principles of a social identity approach to leadership and applications to research in the social identity tradition have sought to understand the processes that enable individuals to influence one another, be perceived as effective, and motivate the group in their leadership role. For example, Haslam et al. (2020) produced four principles of effective social identity leadership: (1) leaders as in-group prototypes, (2) leaders as in-group champions, (3) leaders as entrepreneurs of identity, and (4) leaders as embedders of identity. Each provides a unique insight into the nature of social identity leadership.

1.5.1 Leaders as In-group Prototypes

Research has explored the importance of beliefs and behaviours that accentuate leaders' similarity with their group. In social identity theory, leaders that represent group values are defined as prototypical of their group's identity (Hogg, 2001a). Leaders represent the unique qualities that define the group and what it means to be a group member (Barreto & Hogg, 2017)—expanding upon this, leading as an in-group prototype means embodying the core attributes of the group that make this group unique and distinct from other groups (Steffens et al., 2014). Initial experimental research found that prototypical leaders were

endorsed more by participants. This support was maintained regardless of whether leaders acted in an in-group favouring, out-group favouring, or fair manner (Platow & van Knippenberg, 2001). Additional research across laboratory and organisational settings (van Knippenberg & van Knippenberg, 2005) have further indicated that prototypical leaders are perceived to be more effective and group-orientated than less prototypical leaders. Therefore, leaders' ability to represent the group may motivate support from group members and increase perceived leadership effectiveness.

The research was conducted on leader prototypically, which investigated the mediating role of social identification in the relationship between leader prototypicality and support for the leader (van Dijke et al., 2010). They illustrated that leaders are most effective in stimulating follower cooperation when they consistently treat all group members fairly and are prototypical (i.e., representative of the group's values and norms). The study used organisational employees and laboratory experiment data and found that leaders prototypically increased perceptions of charisma and support for the leader among strongly identifying participants. Furthermore, the social identification with the organisation or laboratory group mediated the relationship between leader prototypicality and support for the leader. This indicates that when group members feel a strong bond with their group, leaders' prototypically increase support for their leadership.

Bringing the leader prototypical research together, evidence suggests that being perceived to represent the group gains support and validation from group members and results in higher perceptions of effectiveness and charisma (van Knippenberg, 2011). It has been shown that follower endorsement of prototypical group leaders is less contingent on the leaders' group-oriented behaviour, such as self-sacrificing behaviour (van Knippenberg &

van Knippenberg, 2005) and ingroup-favouring allocation decisions (Platow & van Knippenberg, 2001). In contrast, a non-prototypical leader must show more group-oriented behaviour to receive follower endorsement (Haslam & Platow, 2001). In line with the social identity analysis of leadership, it can be stated that prototypical group leaders receive more trust in leadership than non-prototypical leaders (Gessner et al., 2009).

Anecdotally, leaders work to demonstrate their prototypicality. For example, wearing your political party's colours when addressing people, illustrating they embody the group they represent. Alternatively, in sport, wear your club colours as a club leader you work or play for. Leadership in sport includes formal and informal roles (Loughead et al., 2006), and although sports leadership research has typically focused on coaches (Fletcher & Arnold, 2011), the principle of prototypically affects all leadership situations. In summary, leadership appears bound up in group processes, with research evidence suggesting leaders are more likely to be effective if group members perceive the leader to represent the group's identity.

1.5.2 Leaders as In-group Champions

The second principle of social identity leadership involves leaders being perceived to behave in ways that advance the group's interests (Haslam et al., 2020). These leaders advance and promote the group's core interests, standing up for and if threatened defending the group and its interests (Steffens et al., 2014). In short, successful leaders work to progress the group and act for the benefit of the group. Supporting evidence of the need for leaders to progress, the group has investigated the notion of fairness. The construct of fairness becomes increasingly relevant from a social identity perspective in situations where in-groups compete against out-groups. In an experiment, Turner (1975) asked participants to distribute money to themselves and a fellow in-group member or an out-group member. The findings revealed

that participants were fairer in their distribution of money between themselves and in-group members, demonstrating the application of fairness in an intergroup setting is governed by shared group memberships. To summarise leadership research examining fairness, the findings imply that leaders who are fair to the in-group and unfair to the out-group are supported and endorsed more. Importantly, acting reasonably seeks to promote group interests. Further research supports the importance of leaders advancing their group's interests in a contextually specific manner. Accordingly, it may not always be the case that acting reasonably to the in-group and unfairly to the out-group will be beneficial. Whether acting reasonably is in leaders' interests is dependent upon how the in-group is defined. Advancing the group's interests involves enriching group values, and if the values of group identity portray fairness, then leaders are more likely to be supported if they act pretty.

Similarly, qualitative research has indicated that Great Britain's performance at London 2012 was based upon decisions (e.g., regarding team kit) that sought to optimise peak performance (Slater et al., 2014). The established in-group bond and internalisation of social identities motivate group members to intrinsically enhance their group membership (Haslam, 2004). Subsequently, the likelihood of scrutiny or punishments being effective leadership strategies is reduced. Research has sought to examine the effect of in and out-group leaders using surveillance and punishments on leader influence (Subasic et al., 2011). Without surveillance, data from two experiments indicated that in-group leaders were perceived as more influential than out-group leaders. When in-group leaders did employ surveillance, their ability to influence group members reduced, while in contrast, out-group leaders' influence was a function of their surveillance with little influence under no surveillance. An implication from these results is that in-group leaders will lose influence under conditions of surveillance or punishment. Such power over strategies, as outlined by

Turner (2005), typically reflect traditional leadership theory, and perhaps reduce trust between leader and group members; thus, in-group leaders may wish to avoid strategies that indicate they are not acting in the group's interests.

1.5.3 Leaders as Entrepreneurs of Identity

The third principle brings people together by creating a shared sense of "we and "us" within the group. It explains the notion of how we make different people all feel that they are part of the same group and increase cohesion and inclusiveness within the group (Steffens et al., 2014). Social psychology defines the meaning or values of an individual's group membership as social identity content (Reicher, 1984). As evidence has indicated that group behaviour is directed by group norms (Livingstone & Haslam, 2008), leaders attempt to make group members take on values that fit the leader's vision. The Prison Study televised by the BBC (Haslam & Reicher, 2007) subjected participants to an experimental study in a simulated prison over two weeks. The study created two groups, one with power and the other without it. Participants were randomly assigned to be prisoners or guards while the researchers examined the leadership processes that unfolded. In the first few days of the experiment, a social system of bitterness and resentment between the two groups emerged. On the fifth day, a new participant was introduced to the study, and they encouraged fellow participants to view themselves regarding a new set of values within a broader group of participants; this included the roles of prisoners and guards. This participant used the context by drawing on the participants' clothes and other metaphors and inclusive language their "group" emphasising their group's focus. The results suggested these actions allowed the leader to redefine identity to encompass all the participants who challenged the experimenters rather than two distinct groups of prisoners and guards.

The leader's collective focus and creation of new group norms meaningful to the group allowed the leader to gain support and mobilise the group while simultaneously progressing towards their vision (Haslam & Reicher, 2007). This study has indicated that group memberships contribute to individuals' sense of self positively or negatively. The influence social groups have on individuals depends on the status of the group comparative to out-groups, with perceived status derived from the dimension upon which individuals compare themselves to out-groups (Boen et al., 2008). Social identity theory and associated research have suggested that leaders must emphasise the in-group's dimensions to ensure favourable comparison (Boen et al., 2008). Accordingly, leadership is a proactive process where leaders can shape the social context to create and advance shared identities (Reicher et al., 2005). Thus, rather than being a reactive onlooker and allowing the group to direct values and behaviour, leadership actively shapes events to immerse the group in the leader's ideas. Within groups, individuals provide various explanations of what it means to be members of their distinct groups (Haslam, 2004). Plausibly, multiple contents may exist within a group, and therefore, leaders aim to redefine group identity and provide converging values to be embraced by all group members. In redefining identity, leaders aim to maintain in-group and prototypical status and develop new group values consistent with their vision. One-way leaders can achieve this is by selecting formal leaders such as managers or captains, who represent the values they wish to instil and are grounded in the existing group identity. However, a shortcoming of social identity leadership research is that much-existing evidence focuses on group members' perceptions of leaders (Subasic et al., 2011) rather than how leaders enlist the efforts and abilities of the group to mobilise them.

1.5.4 Leaders as Embedders of Identity

The final principle of social identity leadership proposes that the values put forth by the leader need to become a reality. In social identity terms, research has indicated that leadership is about achieving or at least making progress towards a collective vision that aligns what the group values (Reicher & Haslam, 2006). In particular, the prison Study highlighted that group members were more prepared to act for the leader when practical structures were provided that helped fulfil the group's values (Haslam & Reicher, 2007). In social identity leadership terms, after creating a new group identity, the leader was successful because they embedded what mattered to the group in the context of the simulated prison. In this principle, leadership is about developing structures, events and activities that give weight to the groups' existence and allow group members to live out their membership. In addition, these leaders promote structures that facilitate and embed shared understanding, coordination, and success (Steffens et al., 2014). Research findings have suggested that planning and delivering activities or structures that reflect the leader's and group's values is essential to allow the positive benefits of social identities to become a reality (Boen et al., 2008). Specifically, providing opportunities for the group to achieve its target means that group members will be motivated to invest their resources in their group membership because their identification contributes to their sense of self.

Large-scale research in American organisations indicated that leaders are acting proactively and setting challenging goals led to increased performance of team members (Crossley et al., 2013). Further, the researcher found that the links between challenging goals and performance were significantly moderated by trust in the leader. When taken together with social identity leadership, the results have implications for leadership practice because group members trust prototypical leaders (Giessner et al., 2009). Namely, once establishing shared identification and prototypical status, and therefore reciprocal trust, leaders may be

equipped to set challenging targets for group members to improve performance. This notion requires research attention, but from a social identity approach perspective, challenging targets may be an example of a structure that provides group members with the guidance to fulfil leaders' aspirations and establish a shared identity. Indeed, overlooking practical support to help the group to achieve its vision may lead to unsustainable and ineffective leadership (Haslam et al., 2020).

1.5.5 Summary of Social Identity Leadership

In summary, the group-level leadership research is rooted within social psychology, with most studies being experimental (Haslam et al., 2020). Most contemporary leadership theories adopt the thinking that the leader is not part of the group of people that follow them whereas social identity leadership posits the leader is part of the group. As has been highlighted in the four principles of social identity leadership, there is an abundance of positive behavioural outcomes for both leaders and followers (Slater et al., 2014). Leaders whom followers do not trust will be far less effective (Burke et al., 2007). Despite a large sample of research looking at group-level leadership processes, there is a need for more applied and organisation sample studies that can examine leader and follower social identity processes in a natural organisational context, using a longitudinal design (Epitropaki et al. 2016; Slater & Barker, 2019). Due to a lack of longitudinal research within group-level leadership literature, more research is needed using a longitudinal design to gain a larger insight in an organisational context (Steffens et al., 2018). The social identity leadership literature has expanded into understanding its effects on performance and wellbeing outcomes. One specific outcome that has gained increasing awareness in the literature is stress.

Studies have revealed that stress is harmful for individuals' health and, in the long-term, damage individuals' performance capability and lessen overall organisational effectiveness (Russ et al., 2012; Shields et al., 2016). Therefore, it is key to deepen our understanding of how organisations may downscale the prevalence of stress in the working context. One promising link for organisations to handle the challenge of work stress and its consequences is to draw on organisational leaders and their influence on followers. As it is leaders' assignment to sustain and enhance the performance capability of the organisation, they have to lead the charge to mitigate their followers' level of stress. Nevertheless, only in recent years a leader's potential influence on follower wellbeing and stress has increased academic attention (Skakon et al., 2010). Furthermore, existing research has yielded promising insights regarding the effects of different leadership styles on a plethora of stress and wellbeing related outcomes (Gregersen et al., 2014). However, stress and other health-related outcomes have only been researched in isolation with social identity leadership. Therefore, there is a need to understand the effects of social identity leadership on stress for both leaders and followers.

1.6 Stress

Stress in the workplace continues to be a major concern for employees and employers. Work stress is known to affect the wellbeing of employees, is associated with high economic costs and imposes a burden on the public health system (Health and Safety Executive, 2019). Indeed, experiencing repeated or prolonged occurrences of acute stress (chronic stress) can lead to health diseases and disorders (McEwen, 1998) that include burnout (Iacovides et al., 2003), chronic fatigue syndrome (Coetzee et al., 2019) and cardiovascular diseases (Kivimaki and Kawachi, 2015). Stress is the psychological or

physiological arousal that happens when a person senses a threat to something of value to them, and that threat exhausts the resources they have available to confront it (Hobfoll, 1989; LePine et al., 2004). No matter the source, stressors are said to be stressful due to a potential threat being either uncontrollable or unpredictable (Cohen, 1980). Additionally, the more individual values a relationship or resource, the more stressed the individual becomes when that relationship is at risk (Bakker et al., 2007).

Although stress researchers have argued that moderate levels of stress can be beneficial for activating behaviours and cognitions, too much stress damages the individual's physical and psychological health (Cohen et al. 2007). In situations where individuals are subjected to prolonged periods of stress, burnout is likely to occur (Maslach, 1982). That is, as stress mounts, the individual must increasingly divert psychological resources to combat its negative effects until those resources are exhausted, and the individual feels overwhelmed and no longer able to cope with work (Halbesleben & Leon, 2014). In terms of problems at work, stress and burnout have been associated with reduced job performance and job satisfaction (Gilboa et al. 2008), increased withdrawal and turnover (Griffeth et al., 2000), higher rates of accidents (Murphy et al., 1986), and drug and alcohol use (Frone, 2008; Harris & Heft, 1992). First, it is useful to provide a brief overview of some of the approaches that dominate contemporary understanding of stress in the workplace. This is important to understand both the range of phenomena that need to be explained and, ultimately, what approach will be used in this thesis.

1.6.1 The Physiological Approach

Theories of stress have been heavily influenced by physiological conceptions that characterise the phenomenon as an organism's response to unbearable demands. This idea is

central to the medical approach pioneered in the middle of the 20th century (Cannon, 1929; Selye, 1956). Selye argued that stress could be understood in terms of a general adaptation syndrome (GAS), a syndrome that envisaged stress as having three distinct stages: shock, counter-shock, and resistance. It was suggested that if a person works through the full stress process, this can mean that, ultimately, the experience is positive as it can promote a person's growth and development and enhance performance. However, Selye argued that this would not be the case if the process of resistance depletes a person's energy, as this will result in exhaustion that is likely to have adverse long-term health outcomes (Eyer & Sterling, 1977). This depletion takes an extreme form of burnout, which represents the most chronic form of workplace stress and is typically associated with people who work in human service professions (Halbesleben & Leon, 2014). As well as exhaustion, the other two components of the syndrome are lack of accomplishment and callousness. When combined, these are seen to represent a potent threat to both individual health and organisational functioning (Jackson et al., 1986).

Notwithstanding its success in describing important features of the stress process, two key limitations of the physiological approach are that it is (1) psychological and (2) acontextual (Cooper et al., 2001). As a result, the physiological approach to stress fails to answer several key ‘why’ and ‘when' questions relating to the emergence and impact of stress. To address these, there is a need to explore and attend to both the workings of employees' minds and the context within which they work.

1.6.2 The Individual Difference Approach

A prevalent way of attempting to come to terms with the psychological dimensions of stress has involved endeavouring to clarify the psychological profile of a person prone to

being stressed. The most significant work in this field has built on the research distinguishing between *Type A* and *Type B* behaviour patterns (TABP, TBBP; Rosenman et al., 1964). Such work deploys tools like the Jenkins Activity survey to differentiate between those whose approach to work tasks is rushed and intense, who are believed to be particularly prone to stress-related illness as a result, and those who are more relaxed (Jenkinset al., 1979). However, despite its popularity, reviews of the efficacy and reliability of this approach provide a small amount of evidence that it is either empirically robust or practically useful (Cooper et al., 2001). Overall, this is because the correlations between various personality measures and key outcomes that relate to work performance and health of employees vary widely and are typically very low (Myrtek, 2001).

In other areas of organisational psychology, faced with unimpressive evidence of this form, most researchers who continue to use personality as a basis for understanding stress have moved towards a contingency approach which suggests that personality factors moderate the relationship between features of the environment and stress reaction such that were particular features of the workplace tend to produce stress their impact will be especially pronounced for people with a particular personality type (Zeffane, 1994). However, even in this qualified form, the personality approach still has several limitations. In particular, the correlational nature of most work makes it is unclear whether personality is a product or cause of stress; as well as this, there is a clear sense in which personality factors are implicated in the stress process are circular in the sense that they simply redescribe some of its salient features (Sparks et al., 2001). Accordingly, while personality approaches provide us with a language that is helpful when describing stress reactions, like work in the physiological tradition, they are not much use when it comes to explaining them. The

personality approach provides no clear avenues for lowering stress and reducing its adverse consequences.

1.6.3 The Stimulus-based Approach

The idea that stress is abnormal to types of people is an obvious alternative to suggest that it is a product of particular features of the organisations' environment. Amongst researchers who have pursued this idea, key strategies have involved trying to quantify the amount of stress that is likely to arise from both (a) specific life events (e.g., retiring) and (b) a certain type of job (Dohrenwend & Dohrenwend, 1974). Nevertheless, although this approach generates interesting data that can have some utility for actuarial purposes, it is apparent that such lists are very context-specific and that there are at least as many variations in stressfulness within events and occupations as there is difference between them (Holmes & Rahe, 1967). Moreover, they are theoretically limited in failing to explain what events or jobs make them stressed.

To answer such questions, researchers have attempted to break down the experience of work into its constituent components to identify which of these are primarily responsible for stress (Cooper et al., 2001). For example, research has highlighted six major categories of stressors in the workplace, and these criteria commonly are used to assess stress in the workplace (Cartwright & Cooper, 1997). The research argues that stress tends to be a product of (a) high demand, (b) lack of say in one's work, (c) lack of support from colleagues and superiors, (d) exposure to unacceptable behaviour (e.g., bullying), (e) lack of role clarity, and (f) lack of involvement in organisational change (Cartwright & Cooper, 1997). However, these can clearly be distinguished from each other; one feature that these six categories of stressor share are that they all involve some sense of perceived unfairness (De Cremer, 2006).

Despite a large body of research showing that an array of organisational stimuli can contribute to stress at work, there is a lack of properly integrated theory to explain when and why they do.

1.6.4 The Transactional Approach to Stress

How a person evaluates the significance of a situation regarding his or her personal goals, which might be endangered, is known as stress appraisal. Transactional and relational theories of stress are some of the most widely used and tested in sport and business. Transactional stress theory and cognitive-motivational-relational theory (CMRT) of stress and emotion are the two most prominent theories (Lazarus & Folkman, 1984; Lazarus, 1999). These theories put forward the notion that stress is a transaction between an individual and his or her environment and that individuals appraise stressors concerning their goals, values, and beliefs. According to the CMRT (Lazarus, 1999, 2000), appraising is an evaluative process during which individuals construct relational meanings about the stressors they encounter. Relational meanings may relate to challenging, threat, harm, or benefit, and each has different implications for emotions, coping, and other outcomes (e.g., wellbeing and performance). If a stressor is appraised as relevant to an individual, coping will ensue. The degree to which coping optimises stress transactions is known as coping effectiveness. Drawing on transactional theories, researchers have used qualitative and quantitative methods to unearth stressors (i.e., competitive, organisational, and personal) that athletes experience (Nicholls et al., 2005), the ways in which they are appraised (Doron & Martinent, 2017), the emotions experienced (Nicholls et al., 2011; Moore et al., 2012), and the strategies used to cope (Nicholls & Polman, 2007). More recently, researchers have started to explore the

relationships and interactions between different components of stress transactions (e.g., stressors, appraisal, emotion, and coping; Doron & Martinent, 2017; Gomes et al., 2017).

According to Lazarus and Folkman's (1984) transactional approach, the individual's appraisal of the situational relevance to wellbeing potentially leads to a stress appraisal rather than the situation itself. Rather than identifying stressors, research should identify the rules that make an individual appraise an event as stressful (Lazarus, 1999). The most difficult problem for stress theory is to specify what makes something psychologically noxious, as all encounters of psychological stress will result from the interactions between the individual and the environment (Lazarus, 1999). Individuals will assess an event according to its relevance to their welfare and its situational characteristics. For an event to be appraised as stressful, it must contain both personal factors and situational factors (Lazarus & Folkman, 1984). The meaning of a situation and its factors depends on appraising the personal significance of adaptational encounters with others and the environment (Lazarus, 2000). The personal factors include the goals (e.g., the championship trophy), individual beliefs such as how we conceive our place in the environment (e.g., our perceived place in the championship), and our resources (e.g., great levels of fitness). These personal factors shape the personal significance of the encounter, without which an event cannot be appraised as stressful since it has no importance to the individual (Lazarus & Folkman, 1984).

Personal factors must be viewed in the context of the situation or environment. Whether a situation is perceived as stressful will be dependent on the individual’s appraisal of his/her relationship with the environment (Lazarus, 2000). According to Lazarus and Folkman (1984), it is not the situation per se that mediates a stress appraisal. Instead, they proposed that certain underlying properties exist which underpin all situations perceived as

stressful. Thus, it is suggested that rather than examining the substantive issues of what a situation is about (e.g., pressure to win, need to be selected), the focus should be on the underlying properties of situations that would lead to stress appraisals (Lazarus & Folkman, 1984). Thus, when researching stress, it is key to understand the context of the situation. One situational factor that can influence an individual's stress appraisal is how they are led, or if they are a leader, how they lead. In this thesis the transactional approach to stress will be the lens in which stress is evaluated. The balance of leadership and stress needs to be further investigated to illustrate how leadership can shift perceived stress and objective stress (biological data such as cortisol).

1.7 Leadership and Stress

Current work trends include longer working hours and increases in managerial demands and pressures. Job insecurity and the loss of job control are also significant concerns of the workforce (Sparks et al., 2001). Work-related stress costs organisations billions of dollars a year in lost productivity, health care expenses, and stress-related lawsuits (Sulsky & Smith, 2005). While all employees experience work stress, leaders tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick et al., 2005). Therefore, an important yet often overlooked component of leadership is to prepare leaders to manage work stress (Lovelace et al., 2007). The working environment in organisations is complex for leaders due to greater demands in productivity and increasing costs (Murphy, 2002). Leaders involved in deciding difficult decisions such as letting people go from an organisation and those involved in direct and indirect downsizing experienced significant increases in physical health problems, e.g., headaches, high blood pressure, depression, and job insecurity (Moore et al., 2004). In

addition, where followers have high levels of presenteeism may worsen follower stress and sickness (Nielsen & Daniels, 2016).There is also ample evidence to indicate that chronic, unmanaged high job demands result in exhaustion and, ultimately, job burnout (Schaufeli & Bakker, 2004). Therefore, an important part of leadership development should be to address high demand and low job control situations by offering a means for creating a positive active work environment.

Leadership and high-strain work environments have received research attention (Ganster, 2005). Hambrick and colleagues extend the literature on executive job demands and propose the effects that executive job demands have on strategic decision making and leader behaviours (Hambrick et al., 2005). The authors' recommendations for future research in this literature stream include a call for multi-disciplined research that focuses on how leaders can manage high job demands as well as research that considers the relationship between executive job demands and leader stress and health (Hambrick et al., 2005).

Stress can be a leading factor to cause leaders to make the wrong choice or decision (Thompson, 2010). For effective leadership to arise, it requires an individual to commit cognitive resources to deal with problems and make effective choices whilst sustaining awareness of the circumstances that could change the individual's decision-making boundaries (Mumford et al., 2007). These different processes are interrupted by stress, with can cause aggressive behaviour (Sprague et al., 2011) and lower levels of complex cognitive functioning (Arnsten, 1998). Those in leadership positions feeling stressed are also less likely to understand viewpoints from and team perspective and therefore become more self-focused (Salovey, 1992). Furthermore, when a leader is engaged in cognitively demanding jobs, it guides the leader to engage in abusive behaviours (Collins & Jackson, 2015). Therefore, a

leader becomes more likely to act destructively towards team members (Bardes & Piccolo, 2010) and can often not engage in any positive leadership behaviours (Eubanks & Mumford, 2010).

In addition, a report by the Centre for Creative Leadership showed that almost 90% of leaders describe how the working environment is the main source of stress within their lives (Campbell et al., 2007). Subsequently, a reason for work being the main stressor in leaders' lives is that leaders deal with many potential sources of stress (Day et al., 2004). Leaders need to be adept at influencing subordinates' motivational, emotional, and developmental needs in the stressful modern working environment (Lyons & Schneider, 2009). There is a movement in the focus of leadership effectiveness that requires that leadership researchers follow suit and consider a wider range of outcome variables in leadership research. Current research shows that leadership behaviours were impacted by whether leaders were experiencing stress or not (Harms et al., 2017). Understanding stress and broader leadership theories provide us with a greater understanding of the effects stress have on leadership. The current approaches to researching the dynamic and relationship between leadership and stress are often limited to single point examination and not enough research longitudinally where changes between variables can been highlighted clearer (Steffens et al., 2018). In addition, the literature lacks research on how the actions of a leader can affect not only their stress levels but the stress levels of the group they lead (Campbell et al., 2007). Referring to social identity and social identity leadership will provide us with an insight into the group dynamics and the salient nature of an individual's leadership.

If a person's social identity is salient, it is predicted that his or her appraisal of social stressors will be affected by the views and conditions of his or her in-group. Consistent with

this hypothesis, it has been shown that social identity salience is a powerful determinant of whether a given stressor is seen as self-threatening (Lazarus & Folkman, 1984). For example, female sports scientists found the threat of a knee injury more stressful than the threat of a facial scar when their sporting identity was made salient, but the opposite pattern emerged when their gender identity was made salient (Levine & Reicher. 1996). Along related lines, social identity salience also serves as a basis for active coping processes (Lazarus & Folkman, 1984). This is because social identity is a critical determinant of the dynamics of social support (Underwood, 2000). Specifically, when they are acting in terms of shared group membership, people should be more likely to; support other in-group members, receive support from fellow in-group members in return, and interpret proffered support in the manner and spirit in which it is intended (Levine et al., 2005).

Hospital patients recovering from heart attacks and bomb disposal experts and bar staff also support mediational models which suggested that shared social identity has a positive impact on stress because it serves as a basis for receiving effective support from in-group members (Haslam et al., 2005). In addition, longitudinal research with members of different theatre productions has found that social identification with a workgroup has a positive long-term impact on individuals' health, wellbeing, and morale because identity-based support protects individuals from burnout during the most testing phases of group activity (Haslam et al., 2005). However, the research generally fails to illustrate the link with social identity leadership. In addition, the literature lacks evidence that highlights the links between objective and perceived stress and social identity leadership.

To advance theory, recent calls need to be answered to apply more innovative and rigorous methods in the organisational and sports psychology literature (Antonakis et al.,

2012). One main limitation of existing literature is that it relies solely on self-reported stress measures (Razavi, 2001). In other words, followers rate their perceived stress levels over a certain period. One pathway to address this limitation is the combination of biological and psychological research traditions to integrate and advance knowledge in the organisational context regarding biological aspects of organisational behaviour (Arvey & Zhang, 2015). Therefore, one of the primary objectives is to provide insights into this critical gap in existing research and, for the first time, examine leadership relationships with an objective biological criterion of leaders' stress, namely hair cortisol (Diebig et al., 2016). In recent years, cortisol has become the major neuroendocrine indicator of stress in scientific literature and has been the most studied hormonal indicator in the human body (Ganster & Rosen, 2013). The extraction of cortisol from hair displays a general stress level over time and enables us to look at associations between leadership and stress within a prolonged time frame.

Measuring hair cortisol concentrations (HCC) is a more recent approach that retrospectively assesses the cumulative cortisol levels of several months, which is therefore not affected by diurnal variation, and has been regarded as a promising biomarker of chronic stress exposure (Russell et al., 2012). However, empirical findings of the association of HCC with perceived stress, in general, have produced mixed results. Further research has been called for to answer the questions of validity and reliability of the method (Stalder et al., 2017). Cortisol is crucial for proper body and brain functioning as it regulates numerous basal processes such as fat and glucose metabolism, blood pressure, inflammatory and immune responses, and thereby aids the organism to flexibly adjust to environmental challenges (Dettenborn et al., 2012). It is also commonly known as *the* stress hormone because it is released in higher doses under stressful conditions.

Researchers have used repeated measures of saliva, urine, and blood to indicate long-term cortisol characterisations. However, providing repeated measures increases the burden and discomfort for study participants. To obtain saliva samples, study participants must swab their mouths or spit into a container up to 8 times per day for 37 days, depending upon the research data being sought (Kudielka et al., 2007). The results from a recent study on the number of samples needed to characterise salivary cortisol indicate that three days of samples are needed for mean results, eight days for the area under the curve, and 21 days are required to measure diurnal decline (Segerstrom et al., 2014). The disadvantage to multiple sampling in older adults is that following a complex regimen of multiple sampling reduces adherence to protocol (Kudielka et al., 2007). In addition, the changes in oral mucosa with age leading to dry mouth add to the difficulty in obtaining multiple saliva samples (Ghezzi & Ship, 2003).

The protocol to characterise long term urinary cortisol exposure is no less tedious. Participants must collect urine for between 12–24 hours, which may not be feasible for older adults with memory impairment (Russell et al., 2012). This involves urinating in a collection pan placed on the toilet, then transferring the urine to a gallon container for 12–24hours. Although less effort is required from study participants, blood cortisol testing is the most invasive of the three approaches because of the pain and discomfort. This can lead to erroneous test results due to elevations in cortisol caused by the participant's fear (Weckesser et al., 2014). Hair cortisol analysis has several advantages over other measures of cortisol. First, segmental analysis or the cutting of hair into segments from the scalp allows for the retrospective review of HPA axis activity reflected in cortisol (Gow et al., 2010; Kirschbaum et al., 2009). Hair cortisol can be measured reliably in hair up to 6cm in length, representing six months of stress data. However, a steady decline in cortisol concentration occurs past 4–

5cm from the scalp due to a leaching effect (Gow et al., 2010; Kirschbaum et al., 2009). Thus, stress release activity in response to chronic stress can be measured up to 3–4 months before a hair cortisol sample was taken. In addition, hair cortisol measures can be taken three months later from new growth to measure change over time. This highlights the need for further application of using hair as a source of collecting cortisol data due to its non-invasive nature, cost implication and ability to measure over a long period. This, in turn, will provide a larger window to look through in terms of data and shape different methodologies used, such as longitudinal approaches. Hair cortisol data is still novel, and further studies are needed to expand on its validity and reliability as a measure of objective stress (Stalder et al., 2017). Combining the novel and contemporary method of measuring stress alongside self-reporting methods will provide insight that has rarely been used so far within the literature. Therefore, an objective of this research will be to highlight the use of different methods of measuring stress in people in conjunction with performance-related outcomes such as perceived leadership.

1.8 Summary, Aims and Objectives

Leadership theory has evolved from an individual figure leading from the front to more contemporary approaches that focus on the group and followership, such as social identity leadership. As has been highlighted, leadership is a social construct of influence between people within a social group, laying the foundation for the social identity approach (Haslam et al., 2020). The evidence is clear that social identity leaders are perceived to be more influential (Subašić et al., 2011), trustworthy (Gessner & van Knippenberg, 2008), and effective (van Knippenberg & van Knippenberg, 2005). However, it is still a novel and contemporary theory compared to those extensively and rigorously researched, such as

transformational leadership. More research is still needed to expand the social identity approach to leadership. In particular, as this literature review has laid out, examining how leadership affects outcomes highlighted in modern society, such as stress in the workplace, is a worthwhile endeavour. These areas have been researched extensively in isolation but not together. It is expanding on this point on the topic of stress, as the largest cause of absenteeism in the United Kingdom, more research is needed to highlight how to combat stress (Health & Safety Executive, 2016). One area highlighted to combat stress is the leadership followers receive and the leadership leaders provide for others (Harms et al., 2017). This is yet to be thoroughly researched within the social identity approach to leadership. However, leadership theories such as transformational leadership have highlighted already the benefits of this approach on wellbeing outcomes (Lyons & Schneider, 2009). By highlighting the effects of social identity leadership on stress levels in leaders and team members (followers), we can create a clearer picture of how the approach compares to other contemporary leadership theories commonly used and preached as approaches that will make you a better leader.

Accordingly, this thesis aims to investigate the associations between social identity leadership, social identity, and stress from the perspectives of leaders and their followers (team members). To summarise, the literature on leadership, social identity and stress is an ever-evolving field of research where new research areas are still needed to highlight the dynamics between these variables (Haslam et al., 2020). Specifically, most of the leading research on the interplay between leadership and stress focuses on using the most published leadership theory, transformational leadership (Harms et al., 2017). The buffering effects of transformational leadership on the stress levels of leaders and followers alike have been well documented (Kelloway et al., 2012; Kammerhoff et al., 2019). Though there is an argument

that transformational leadership does not independently decrease the levels of stress in the workplace, other contributing factors could be at play as the research has not yet investigated them alongside transformational leadership (Parveen & Adeinat, 2019). Links between socially constructed factors such as social identity, social support and job satisfaction have all been linked to transformational leadership (Reicher et al., 2005; Herman & Chiu, 2014).

While this provides insight into how one leadership theory affects stress levels, there a need within the literature is to seek if other leadership theories that are more contemporary could offer an even more of more substantial effect to buffer the stress levels of leaders and followers; one such approach that the literature puts forth is social identity leadership (van Dick et al., 2018). Social identity leadership is built from the foundations of social identity theory, which has been demonstrated to buffer stress (Haslam et al., 2004; Morton et al., 2012). Therefore, it is imperative to investigate social identity leadership and its effects on stress and if social identity adds variance on top of the leading leadership theory, which has positive buffering effects on stress (van Dick et al., 2018). However, as previously mentioned in the chapter, stress connects with social identity, social support, and job satisfaction (Cohen et al., 1985; Avanzi et al., 2015; Pecino et al., 2019). How stress is measured and evaluated within the literature needs further expansion due to the nature of stress responses and how individuals appraise stress (Lazarus, 1999). A new-age method of measuring stress is through hair cortisol levels (Russell et al., 2012). It is still experimental within the literature, specifically when looking at its relationship with leadership (Diebig et al., 2016). This thesis has the opportunity further to extend the literature on this objective measure of stress and see how it compares to self-reported measures of stress concerning leadership, social identity, and social support (Antonakis et al., 2012).

Therefore, based upon the current literature and opportunities to explore the dynamics highlighted in this chapter, the objectives of the thesis are as follows:

1. Examine the influence of leaders' and team members' perceived social identity leadership and transformational leadership on self-reported stress cross-sectionally (Chapter two) and longitudinally (Chapter three)
2. Explore whether social identity leadership adds variance in explaining leaders' and team members stress' levels beyond transformational leadership cross-sectionally (Chapter two) and longitudinally (Chapter three)
3. Investigate whether beyond leadership would social identity, social support and job satisfaction relate to self-reported stress cross-sectionally (Chapter two) and longitudinally (Chapter three)
4. Examine the influence of perceived social identity leadership on the subjective and objective stress levels (hair cortisol) of leaders over time (Chapter four)
5. Investigate whether beyond leadership would social identity and social support relate longitudinally with objective stress levels (hair cortisol) in leaders (Chapter four)

CHAPTER 2: GENERAL METHODS

2.1 Introduction to Ontology & Epistemology

This section serves as the cornerstone of the research by laying the essential ontological and epistemological foundations used when conducting this research in large organisations. It is essential to highlight the philosophical basis that underpins the entire study, as it shapes the choice of research methods and data analysis. These foundations define the parameters of understanding social identity leadership, social identity, and stress within the context of large organisations. Furthermore, it is essential to acknowledge the significant role played by establishing relationships and access to data sources, which are intrinsic to the research process.

2.2 Ontology

In this context, ontology is the starting point of the research journey. It delves into the essence of reality and the innate characteristics of the organisational world. This profound exploration clarifies the essence of social identity leadership (SIL) and the nature of stress responses experienced by leaders and followers within the complex landscape of large organisations. This thesis's ontological standpoint is rooted in the belief that social identity leadership theory offers an invaluable perspective for comprehending the intricate tapestry of organisational leadership dynamics. This perspective assumes that leadership and social identity are not merely constructed by individuals in isolation but are significantly influenced by external, objective factors present within the organisation. Establishing relationships with individuals with access to data sources is fundamental to a deeper understanding of these external factors.

Organisational reality is a multifaceted entity characterised by a dynamic social system with tangible features such as leadership roles and hierarchical structures. However, it is essential to acknowledge that the lens through which individuals perceive and construct this reality is not static. It is influenced by their social identity processes, personal experiences, and individual perspectives. Building relationships with individuals within the organisation contributes to constructing a more comprehensive understanding of this multifaceted reality. Adopting a critical realist ontological position resonates with the belief that an objective, external reality exists within organisations, irrespective of individual perceptions. However, it also acknowledges the vital role of human perception in interpreting and constructing this reality. This philosophical stance aligns with Bhaskar's critical realism (Bhaskar, 1975), highlighting the coexistence of objective organisational reality and the interpretive capacities of individuals, emphasising the significance of relationships in enhancing this understanding.

2.3 Epistemology

In this thesis, *epistemology* is the gateway to comprehending how knowledge is generated, validated, and interpreted. It defines the terrain on which we navigate our quest for understanding, the methods we employ, and the data we collect and analyse. Building relationships with key individuals within the organisation is not only a practical necessity but an epistemological aspect, contributing to the construction of knowledge. The chosen epistemological stance is firmly rooted in pragmatism, recognising the dual nature of knowledge. It is acknowledged that knowledge derives from a symbiotic relationship between objective data and subjective interpretations. While an objective organisational reality can be explored through quantitative and psychobiological data, the human experience and subjective perspectives play a pivotal role in interpreting this objective reality. Building

relationships with individuals who have access to data sources facilitates data collection and offers a unique perspective on subjective interpretations.

The epistemological standpoint finds its strength in the synthesis of both quantitative and psychobiological (see Chapter 5) methods. This approach is pivotal in providing a more comprehensive understanding of the multifaceted phenomenon under investigation. The amalgamation of objective, quantifiable data with the nuanced biological data of individuals underpins the epistemological position. Building relationships within the organisations where data was collected played a central role in enabling the collection of quantitive data.

2.4 Alignment of Ontology and Epistemology

The alignment between critical realist ontology and pragmatic epistemology, including the epistemological aspect of building relationships, is the fulcrum upon which this research pivots. This philosophical symbiosis permits researchers to explore both the objective and subjective dimensions of social identity leadership, social identity, and stress within the landscape of large organisations. This alignment structures the research design, selecting the most suitable data collection methods and data analysis techniques, thus enabling the unveiling of the complex interplay of factors within the research context of large organisations.

2.5 General Measures

In chapters two and three the same measures are used in each study. Participants completed the same questionnaire in both chapters three and four. Therefore, the following measures are valid and reliable, being used consistently in the extant literature.

Identity Leadership. The Identity Leadership Inventory (Steffens et al., 2014) is a 15-item measure that assesses the four components of identity leadership: (a) Prototypicality (e.g., “my manager embodies what the group stands for” & as a manger I embody what the group stands for); (b) Advancement (e.g., “my manager promotes the interests of the members of the group" & as a manger I promote the interests of the members in my group”); Entrepreneurship (e.g., "my manager makes people feel as if they are part of the same group" & “I make people feel as if they are part of the same group”); and (d) Impresarioship (e.g., "my manager devises activities that bring the group together" & “as a manager I devise activities that bring the group together”). All items included the words "manager" rather than "leader" to fit with the organisation's norms. Participants were asked to consider each item and rate it on a Likert scale, for example, from 1 (*I do not agree at all*) to 7 (*I agree*). The ILI has been validated across different populations and has been found to have good levels of reliability and validity (van Dick et al., 2018). Leaders completed the questionnaire about themselves. Their team members completed it based upon their leader.

Transformational leadership. The transformational leadership inventory (TLI) assess six transformational leadership facets: Identifying and articulating a vision (AV; 5 items; sample item, "My supervisor paints an interesting picture of the future for our group" & “as a leader I paint an interesting picture of the future for our group”); high-performance expectations (HPE; 3 items; "My supervisor shows us that he/she expects a lot from us" & “I expect a lot from those I manage”); providing an appropriate model (PAM; 3 items; "My supervisor provides a good model for me to follow" & “I am a good model follow”); providing individualised support (IS; 4 items; "My supervisor shows respect for my personal feelings" & “I show respect for people’s personal feelings”); fostering the acceptance of group goals (FAG; 4 items; "My supervisor gets the group to work together for the same

goal" “I get my team working together for the same goals”); and intellectual stimulation (ISN; 3 items; "My supervisor challenges me to think about old problems in new ways" & “I challenge my team to have new ways of thinking”) (Podsakoff et al., 1996). Leaders completed the questionnaire about themselves. Their team members completed it based upon their leader.

Stress. The Perceived Stress Scale 14 (PSS-14) measures perceived stress and has shown good reliability and validity (Cohen et al., 1983). The scale includes 14 items scored on a 5-point rating scale ranging from 0 (never) to 4 (very often). The total score ranged from 0 to 56, which can be obtained by adding the scores of all the items. Higher scoring reflected higher levels of perceived stress.

Social Identity. A single item of social identification was adapted from Postmes, Haslam, and Jans (2013) Single Item Social Identification (SISI) scale. The measure assessed to which degree the participant agreement with the statement “I identify with my organisation” (1 = *fully disagree*, 7 = *fully agre*e). Postmes et al. (2013) found the SISI measure is valid based on convergence, divergence, and test-retest reliability (across three studies) and note good, estimated reliability (*r*s = 0.64-0.76).

Social Support. Social support was assessed using the Multi-Dimensional Scale of Perceived Social Support (Zimet et al., 1988). The MSPSS consists of 12 items; each item is rated on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The measure provides a subjective assessment of social support from participants who interact with their colleagues.

Job Satisfaction. The brief index of job satisfaction (Thompson & Phau, 2012) is a condensed version of the *Job Satisfaction Scale* (Spector, 1997). Ten items were used from the adapted and condensed version of the job satisfaction scale that focused on job satisfaction concerning their organisation. Sample items for this variable include: "When I do a good job, I receive the recognition for it that I should receive" and "I do not feel that the work I do is appreciated." Responses were rated on a five-point Likert-type scale (one=strongly disagree to five=strongly agree).

CHAPTER 3: THE EFFECTS OF SOCIAL IDENTITY LEADERSHIP AND TRANSFORMATIONAL LEADERSHIP BEHAVIOURS ON LEADER AND FOLLOWER STRESS WITHIN A BLUE-CHIP ORGANISATION

3.1 Introduction

Chapter one outlined traditional and contemporary approaches to leadership and provided context for how leadership theory has evolved. One such contemporary approach that has attracted a great deal of research attention is social identity leadership, which encompasses four key behaviours (i.e., prototypicality, advancement, entrepreneurship, impresarioship) outlined in the previous chapter and focusses on how leaders and followers are bound together as part of an ingroup (Haslam et al., 2020). Another contemporary leadership approach, transformational leadership, was highlighted in the literature as another perspective widely regarded as the leading leadership theory with broadly positive effects on followers (Bass & Riggio, 2006).

Amongst a range of positive outcomes, leaders being perceived by followers to engage in transformational or social identity leadership has been found to relate to a perceived change in stress (Harms et al., 2017). Transformational leadership has been found to have a negative relationship with stress in that high perception of transformational leadership are associated with low perceptions of stress for leaders and followers alike (Lyons & Schneider, 2009). However, how the four behaviours of social identity leadership are related to stress has previously been researched in isolation rather than together. By highlighting the perceived effects of social identity leadership on the stress levels of both leaders and their followers, a clearer picture can be created of the effects of social identity leadership on well-being outcomes, such as perceived stress. Understanding to what extent

social identity leadership is associated with stress above and beyond transformational leadership will provide further insight into this relationship between leadership and stress. Thus, to address the first two aims of the current PhD, this chapter will assess transformational leadership and social identity leadership to examine the associations between leadership and perceived stress levels in leaders and their followers and highlight the differences between leaders and followers in this regard.

The previous chapter indicated that stress is unhealthy for an individuals' health (Russ et al., 2012) and possibly, long term, may harm an individuals' performance capability and diminish overall organisational effectiveness. Therefore, it is essential to deepen our understanding of how organisations can tackle stress in the working world. One good connection for organisations to handle the challenge of work stress and its consequences is to draw on organisational leaders and their influence on followers. Leaders' position within organisations is to sustain and enhance the performance capability of the organisation (Thomas, 2016). In addition, leaders may have a pivotal role in alleviating their followers' levels of stress. Therefore, a leader's influence on follower's well-being and stress has increased academic attention (Skakon et al., 2010). Existing research has highlighted the effects of different leadership styles on a plethora of stress and health-related outcomes (Gregersen et al., 2014; Zwingmann et al., 2014). Within the multitude of leadership theories in the literature, the current chapter focuses on two of the most prevalent and contemporary approaches: Transformational leadership (Bass, 1985) and social identity leadership (Haslam et al., 2020). Specifically, the focus of this chapter is to examine how these leadership approaches relate to followers/team members stress levels within a demanding work environment.

Transformational leadership approach. Leadership behaviour is one of the crucial factors influencing followers' attitudes, behaviours, and well-being (Yukl, 2013). Leaders in organisations play a vital role in supporting followers to perform at a high level in a high-pressure environment that taxes on people's health and well-being (Arnold, 2017). Transformational leadership has been proposed to be a proper approach to lead in this environment of stress and pressure (Kelloway & Barling, 2010). Transformational leadership focuses on developing, inspiring and empowering followers to perform leadership roles (Avolio, 1999). These leaders motivate and inspire followers by providing meaning and challenge by emphasising teamwork (Avolio, 1999). Transformational leadership includes six principles: providing vision, providing an appropriate role model, providing high-performance expectations, providing individualised support, fostering the acceptance of group goals, and intellectual stimulation (Podsakoff et al., 1990). These principles reduce information asymmetry provide a source of comfort and support by reducing ambiguities, offering guidance, and clarifying roles and tasks, which, as a result, is associated with lower levels of stress (Thomas et al., 2016).

Both practice and research have established that transformational leadership is related to increased organisational effectiveness (Judge & Piccolo, 2004) and employee well-being (Kelloway & Barling, 2010). Furthermore, transformational leadership is related to stress and other health and social outcomes such as social support (Arnold et al., 2007) and job satisfaction (Howell & Frost, 1989). Put together, these patterns of leader behaviours embody appropriate assistance behaviours to help followers to deal with challenging situations and to cope with stress (Parveen, & Adeinat, 2019). However, Yukl (1999) highlighted limitations within transformational leadership. Yulk (1999) explained that transformational leadership would be sounder in theory if the critical influence processes were identified more clearly

and explained how each type of behaviour affects each outcome, such as stress. Another critical criticism research has highlighted that leadership has overlooked the significant fact that leaders lead groups of people and themselves pertinent members of these groups (Van Kippenberg & Hogg, 2003).

Despite theoretical advancements suggesting that transformational leadership operates at both individual and group levels (Wang & Howell, 2010), the majority of the existing literature treats it as a singular construct, which assumes, perhaps incorrectly, that higher levels of transformational leadership are always better for work-related outcomes (van Knippenberg & Sitkin, 2013). Indeed, decades of overemphasis on the construct have likely masked the unique contributions of more specific group versus individual-focused leadership behaviours (Schriesheim et al., 2009), and researchers have called for more precise theorising and empirical isolation of the effects at each level (Dong et al., 2017). Individual and group performance are likely influenced by different factors and mechanisms (Wang et al., 2011). Transformational leadership fails to explain leaders influence over followers in terms of group processes such as leading for the benefit of the followers (Cassar et al., 2017). One sociopsychological theory that focuses on these pertinent group processes is social identity theory (Tajfel & Turner, 1979).

Social Identity. Social identity refers to the part of a person's conception of themself that is based on their group memberships and that gives them a sense of "we and "us" (Epitropaki et al., 2016). In recent years, the social identity approach has emerged as an increasingly important framework for understanding and engaging with critical aspects of organisational life. Building on work with two influential social psychological theories, social identity theory (Tajfel & Turner, 1979) and self-categorisation theory (Turner et al., 1987), the core

insight of this approach is that critical forms of organisational behaviour reflect and arise from people's sense of themselves as group members as much as, if not more than, their sense of themselves as unique individuals.

Therefore, while a great deal of organisational and management theory focuses on the psychology of individuals as individuals, social identity theory suggests that much is to be gained from appreciating how employees' behaviour is structured by their sense of shared social identity (Haslam, 2001b). Among many other things, work that has taken this perspective has shown that social identity is a significant determinant of effective communication (Morton et al., 2012), workplace motivation (Ellemers et al., 2004), organisational citizenship behaviour (van Dick et al., 2006), and social support and stress (van Dick & Haslam, 2012). However, the organisational topic that has probably received the most attention from social identity theorists is leadership (van Knippenberg & Hogg, 2003). There are strong connections between transformational leadership and social identity (Cheng et al., 2016). This is due to the nature of leadership being a group dynamic and can change an individual's behaviour (Haslam, 2004). Therefore, it can be stated that transformational leadership behaviours can account for some but not all changes within leadership effectiveness and development. In contrast, social identity theorists have attempted to move beyond the individualism inherent in such perspectives while also grounding their analysis of leadership in well-specified theoretical models (Haslam et al., 2020).

Social Identity Leadership. The leading contemporary paradigm on leadership within groups is the social identity approach of leadership (Haslam et al., 2020). A multi-level review of the leadership and followership identity process illustrated the effects and outcomes of identity leadership (Epitropaki et al., 2016). For example, when leaders are

perceived as prototypical and represent and advance the group's goals, they are also seen as higher on ethics, charisma, and trustworthiness (Steffens et al., 2014a). Leaders whom followers do not trust will be far less effective (Burke et al., 2007). In summary, the group level research in leadership per se is rooted within social psychology, with most studies being experimental (Haslam et al., 2020). Despite a large sample of research looking at group level processes within leadership, there is a need for more applied and organisation sample studies that can examine leader and follower social identity processes in a natural organisational context (Epitropaki et al. 2016). This chapter examines this concept in a large organisation, looking at both leaders and followers while working in their typical working environment.

Leaders' engagement in identity leadership facilitates a range of essential group behaviours in organisational contexts. Benefits associated with identity leadership in organisational contexts include increased employee work effort (Cicero et al., 2008) and higher group performance, less burnout, and increased work engagement (Steffens et al., 2014). In sport, research has shown that a leader’s ability to embed a shared sense of identity among team members influences their own and other team members’ subsequent behaviours, including their performance (Fransen et al., 2015). Furthermore, research demonstrated that the identity leadership displayed by performance directors during the 2012 Olympic Games (e.g., as evidenced by their commitment to creating a strong sense of 'us') appeared to play a vital role in the overall success of Team Great Britain (Slater et al., 2014).

Social identity leadership encompasses the thinking that leaders are a part of the group as the followers. Despite this notion, research generally does not examine the effect being a social identity leader has on the followers and the leaders themselves (Benson et al., 2016). It may be essential to investigate the leaders themselves because they face the

challenge of simultaneously motivating groups and the individuals comprising them compared to followers who do not have the exact expectations (Dong et al., 2017). For example, an employee may choose to focus on their tasks rather than help a co-worker for the sake of the group's performance. Therefore, it often falls upon the leader to balance leading individuals and the group (Dong et al., 2017). As well as their team, leaders also need to motivate themselves. Therefore, a leader's role is more demanding than a follower due to the complex decision-making leaders need to make daily for the benefit of the followers and the organisation. In turn, leaders tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick et al., 2005). This highlights how there may be a benefit in analysing leaders, and their followers, separately due to the complexity of a leader's world compared to a follower in a working environment in which leaders may naturally have higher stress levels. In addition, it is therefore valuable to understand how perceived leadership for leaders and followers' affects stress levels for both populations.

One key outcome within the literature that has been highlighted is that when there is a poor connection between leader and follower, the follower is more likely to demonstrate a threat response to stress rather than a challenge response to stress (Slater et al., 2018). Another point of key interest in understanding the differences between leaders and their followers is how leadership affects different psychological or social outcomes (social identity, social support, and job satisfaction) and stress. Measuring job satisfaction regarding leadership has shown the positive impact good leadership can have in predicting how happy a person is in their workplace (Kammerhoff et al., 2019). Conversely, job satisfaction has been shown to be negatively linked with stress in the workplace (Berneth & Hirschfeld, 2016). In other words, people with high levels of job satisfaction will have lower perceived levels of

stress, like the thinking behind the relationship between leadership and stress. Thus, there may be a benefit in examining whether job satisfaction alongside the social variables of identity and support are associated with stress beyond perceived leadership. There is limited literature regarding both leaders and followers from the same participant population when exploring the links between social identity leadership and stress, but there has been recent progress in this area in regards to the link between leadership and health outcomes (Steffens et al., 2018) Further evaluation into the differences between leaders and followers is needed, and this chapter will aim to highlight these further to add to a limited body of research within social identity leadership.

Aims of the chapter. Therefore, addressing aims 1 and 2 of the current thesis and building upon the current literature, this chapter aims to examine the effect of perceived transformational and identity leadership on self-reported stress in leaders and their team members. It is hypothesised that: there will be a negative relationship between both leadership approaches (TL and SIL) and self-reported stress in leaders and team members (H1); identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members (H2); social identity, social support, and job satisfaction will be negatively related to stress and explain additional variance, beyond TL and SIL, of the stress of leaders and team members (H3); and finally there will be differences in TL, SIL, social identity, support, job satisfaction, and stress between leaders and team members (H4).

3.2 Method

3.2.1 Participants and Design

To achieve appropriate power based on the moderate effect sizes reported in previous social identity leadership research (van Knippenberg & van Knippenberg, 2005), power analysis suggested that 150 participants were needed (Clark-Carter, 2010). To illustrate, Skinner and Brewer (2002) conducted a similar analysis where 252 participants were sampled at a single time point. In total, 594 individuals were involved in the present study, including 204 leaders and 390 of their team members in a blue-chip organisation. Thus, there was sufficient power to analyse the leaders and their team members separately. No data on gender or age was captured due to the sensitive data set from which the data was collected. The leaders in this study were bank managers that lead different retail banks across the UK. Their team members were staff members in these retail banks. The demographic data could not be collected due to an agreement with the organisation that data was collected from. As this data collection agreement was in place it presented challenges on what data analysis could be conducted. However, due to the participant population offering a rich insight into large organisational dynamics requirements were taken to still ensure that the data collected would be rich. All participants were given complete anonymity apart from the question of identifying if you are either a leader or a direct report. A cross-sectional between-subject design was adopted with a blue-chip organisation in the banking sector.

3.2.2 Measures

Please see General Methods chapter for measures used in this chapter.

3.2.3 Procedure

The study received ethical approval from Staffordshire University. Participants were recruited through Impact International, a world-leading leadership development company that

partners with large organisations. The participants were from one of Impact International's largest clients. A strong trusted working relationship was needed to be built with the client to allow access to their people for participation. An advert describing the research was provided to the client to be forwarded onto any potential participant willing to participate. The advert described the nature of the research, how their data was to be used and discarded in future and the benefits to them taking part. The population of participants were leaders within the organisations and those who reported to these leaders, which are defined as team members. If willing to participate, leaders and team members were asked to follow a link to the online Qualtrics system survey via email. No demographic data was taken because the organisation wanted participants to have complete anonymity. An information sheet and consent provided an outline of the study and the opportunity for participants to give another indication of their participation in the research study. After gaining consent, the participants were invited to complete the study measures via a link to the online survey through their work email, which was permitted to through their human resources department and in collaboration with the IT department as well. Leaders self-reported their leadership ability in the context of transformational leadership and social identity leadership using the same questionnaire (ILI & TLI). In addition to self-reporting their leadership the leaders also reported their current levels of perceived stress, social support, social identity, and job satisfaction. Team members of the leaders reported on the leadership they received from their leaders. In addition, the team members also reported their current levels of perceived stress, social support, social identity, and job satisfaction The online questionnaire took approximately ten minutes to complete.

3.2.4 Analytic Strategy

First, data were screened for outliers and following Smith's (2014) guidelines, data points with *z* scores greater than two were winsorised. This is a process in which extreme values are replaced to reduce the influence of outliers on the data. The multicollinearity assumption was met, and the cook's distance values were less than 1. Variance inflation factor values (≤5.432) and tolerance values (≥0.184) were acceptable (Hair et al., 2010). The independent errors assumption was satisfied, with Durbin-Watson values (1.64–1.937) all within the ≥1 to ≤3 range (Field & Wilcox, 2017). Normally distributed errors, linearity and homoscedasticity assumptions were satisfied across models.

Data analyses were completed in three different phases. First, prior to the main analysis, Pearson correlations were carried out between all variables (identity leadership, transformational leadership, stress, social support, social identity, and job satisfaction). Second, two hierarchical multiple regression analyses were conducted to examine the relationship between leadership principles (transformational leadership and identity leadership) and stress through social support, social identity, and job satisfaction to test H1, H2 and H3. Two regressions were used, one for the leaders and the other for the team members. Each regression had transformational leadership principles at step 1, identity leadership principles were entered at step 2, social support and social identity at step 3, and job satisfaction at step 4 with stress as the outcome variable. Third, MANOVA's and *t*-tests were conducted to assess the differences between leaders and their team members on all variables (H4).

3.3 Results

Descriptive results

Means and standard deviations of variables have been shown in Table 2. In addition, the descriptive statistics highlight the score of each variable used within this chapter.

Means and Standard deviations for each variable.

Table 1: *Means (M) and standard deviations (SD), Left (Leaders) (N=204) & Right (Team Members) (N=390*)

	M	SD	M	SD
Identity Prototype	5.75	0.75	6.18	0.81
Identity Advancing	6.03	0.78	6.27	0.83
Identity Entrepreneur	5.69	0.81	6.11	0.89
Identity Impresarioship	5.14	1.09	5.76	1.05
Transformational Vision	5.23	0.83	5.80	0.95
Transformational Role Model	5.88	0.67	6.07	1.03
Transformational Group Goals	5.88	0.75	6.11	0.95
Transformational Perform Expectations	5.47	0.99	5.82	1.01
Transformational Individual Support	5.95	0.87	5.77	1.15
Transformational Intellectual Stimulation	5.03	0.92	5.25	1.19
Social identity	5.88	1.00	5.73	1.09
Social Support	3.94	0.65	4.26	0.68
Stress	2.57	0.53	2.21	0.43
Job Satisfaction	4.14	0.87	4.07	0.59

Correlational Analyses. Table 2 sets out Pearson's correlations for all variables. All but two variables were significantly correlated (transformational high-performance expectations and transformational leadership individualised support). In support of the first hypothesis that identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members, a negative relationship between leadership approaches (TL and SIL) and perceived stress in leaders and team members was significant. The coefficients range from small to large. The results illustrate the significant negative relationship of stress and social support, job satisfaction and social identity for both leaders and team members. These correlations provide preliminary support

for the first hypothesis; there will be a negative relationship between both leadership approaches (TL and SIL) and self-reported stress in leaders and team members, the second hypothesis; identity leadership explains additional variance beyond transformational leadership in the perceived stress of leaders and team members and the third hypothesis; social identity, social support, and job satisfaction will be negatively related to stress and explain additional variance, beyond TL and SIL, of the stress of leaders and team members but further analysis is needed via multiple hierarchical regression.

Table 2: Correlations (Left = Team Members (TM): Right = Leaders (L)

	SI	SS	STS	JS	IPRO	IADV	IENT	IIM	TLV	TLR	TlGG	TLHP	TLIDS	TLIS
SI		.32**	-.22**	.31**	.27**	.28**	.29**	.21**	.26**	.26**	.29**	.15*	.34**	.15*
SS	.40**		-.30**	.50**	.35**	.41**	.38**	.31**	.32**	.35**	.42**	.01	.29**	.16*
STS	-.56**	-.48**		-.35**	-.20**	-.21**	-.18*	-.23**	-.24**	-.40**	-.32**	-.18**	-.19**	-.20**
JS	.54**	.33**	-.37*		.44**	.39**	.35**	.37**	.41**	.43**	.42**	.41**	.22**	.29**
IPRO	.57**	.54**	-.78**	.39**		.72**	.60**	.53**	.38**	.50**	.52**	.30**	.22**	.32**
IADV	.59**	.56**	-.77**	.40**	.83**		.70**	.61**	.56**	.51**	.58**	.31**	.35**	.43**
IENT	.55**	.52**	-.77**	.33**	.85**	.84**		.63**	.57**	.46**	.60**	.27**	.32**	.39**
IIM	.57**	.46**	-.71**	.37**	.85**	.70**	.78**		.49**	.45**	.54**	.38**	.17*	.37**
TLV	.56**	.48**	-.60**	.45**	.72**	.72**	.72**	.72**		.53**	.60**	.37**	.15*	.51**
TLR	.51**	.53**	-.69**	.38**	.79**	.77**	.75**	.65**	.73**		.66**	.40**	.35**	.48**
TlGG	.55**	.53**	-.76**	.34**	.80**	.80**	.83**	.75**	.75**	.81**		.35**	.34**	.48**
TLHP	.32**	.21**	-.30**	.23**	.34**	.19*	.45**	.54**	.54**	.46**	.40**		.07	.43**
TLIDS	.42**	.42**	-.51**	.30**	.53**	.55**	.53**	.40**	.45**	.57**	.55*	.16**		.13
TLIS	.40**	.29**	-.33*	.31**	.47**	.51**	.47**	.43**	.54**	.54**	.55**	.29**	.30**	

N = 390 (TM), N = 204 (L); SI = social identity; SS = social support; STS = stress; JS = job satisfaction;; IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; TLV; transformational leadership vision; TLR = transformational leadership role model; TLGG = transformational leadership group goals; TLHP = transformational leadership high performance expectations; TLIDS = transformational leadership individual support; TLIS = transformational leadership intellectual stimulation.

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

Main Analyses

Team Members Regression Analyses. Results from the multiple hierarchical regression for team members indicated that transformational leadership accounted for 61% (r^2= .61) variance in stress, the model was significant (F (6, 383) = 101.361, p < 0.01). Adding social identity leadership principles at step 2 added an additional 11% (r^2 = .72)

variance in stress, the regression was significant (F (4, 379) = 36.533, p<0.01). These results support that there will be a negative relationship between both leadership approaches (TL and SIL) and self-reported stress in leaders and team members and that identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members. Both leadership constructs were negatively related to stress highlighting that when leadership is perceived to be high, stress is perceived to be low by team members (H1). In addition, the results highlight that identity leadership adds variance in addition to transformational leadership in respect of the stress levels of team members (H2). Step 3 for social identity and social support was also found to be significant (F (2, 377) = 4.880, p<0.01), while step 4 for job satisfaction was not significant (F (1, 376) = 3.061, p>0.05).

All ANOVA models were significant, step 1 (F (6, 383) = 101.361, p<0.01), step 2 (F (10, 379), 97.999, p<0.01), step 3 (F (12, 377) = 84.151, p<0.01) and step 4 (F (13, 376) = 78.338, p<0.01). At step 4, the betas indicated that: vision as positive (β = 0.17, p<0.01); group goals negative (β = -0.25, p<0.01); intellectual stimulation positive (β = 0.17, p<0.01); prototypicality negative (β = -0.20, p<0.01); advancement negative (β b = -0.27, p<0.01); embedder negative (β = -0.20, p<0.01); and social identity negative (β = -0.09, p<0.05) were all significantly related to stress. Step 3 supports the hypothesis that social identity, social support, and job satisfaction will be negatively related to stress and explain additional variance, beyond TL and SIL, of the stress of leaders and team members (H3) to an extent as social identity and social support were significantly adding variance to stress. However, job satisfaction (at step 4) was not significant indicating job satisfaction may not be related to the stress levels of team members. See Table 3 for all results.

Leaders Regression Analyses. Results from the multiple hierarchical regression for leaders indicate that transformational leadership accounts for 17% (r^2= .17) variance in stress, the regression was significant (F (6, 197) = 6.716, p<0.01). Adding the identity leadership principles at step 2 added an additional 0.7% (r^2 = .18) variance in stress, and the model was not significant (F (4, 193) = 0.426, p>0.05). These two steps partially support the first hypothesis as transformational leadership was significantly associated with stress, but identity leadership did not add additional variance. This contrasts with hypothesis number two as identity leadership added no significant variance to transformational leadership in conjunction with stress. Step 3 for social identity and social support was found to be significant (F (2, 191) = 4.000, p<0.01), as was step 4 for job satisfaction (F (1, 190) = 4.046, p<0.05). Steps 3 and 4 provide support for H3 as all three variables added significant variance to stress. All ANOVA models were significant, step 1 (F (6, 197) = 6.716, p<0.01), step 2 (F (10, 193), 4.153, p<0.01), step 3 (F (12, 191) = 4.235, p<0.01) and step 4 (F (13, 190) = 4.283, p<0.01). At step 4, the betas indicated role modelling as negative (β = -0.24, p<0.01) and job satisfaction as negative (β = -0.17, p<0.05).

In summary, the regressions highlight that transformational leadership was significantly negatively related to stress for both leaders and team members which supports hypothesis number one, that there will be a negative relationship between both leadership approaches (TL and SIL) and self-reported stress in leaders and team members. Social identity leadership was negatively related and added significant variance on top of transformational leadership concerning stress for team members but not leaders partially supporting hypothesis number two; that identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members. In addition, both regressions highlighted that social identity and social support were negatively

related and added variance on top of both leadership approaches for both leaders and team members supporting hypothesis number 3 social identity, social support, and job satisfaction will be negatively related to stress and explain additional variance, beyond TL and SIL, of the stress of leaders and team members. Finally, regressions highlighted job satisfaction significantly added variance on top of all previous variables and were significantly negatively related to stress for the leaders but not team members. Overall, the regressions highlighted differences between leaders and team members as identity leadership was only significantly related to stress for team members and not for leaders. In addition, team members did not highlight a significant relationship between job satisfaction and stress, but leaders found a significant relationship. See table 4 for results.

Table 3: *Hierarchical regression analyses for TL, ILI, SI, SS, and job satisfaction predicting stress in team members (n =390).*

	Step 1					Step 2					Step 3					Step 4				
Variable	*b*	95% CIs	*SE*	*ß*	*t*	*b*	95% CIs	*SE*	*ß*	*t*	*b*	95% CIs	*SE*	*ß*	*t*	*b*	95% CIs	*SE*	*ß*	*t*
TLV	-.02	-.06, .03	.02	-.04	-0.77	.07	.02, .11	.02	.14	2.94**	.07	.03, .12	.02	.16	3.26**	.08	04, .12	.02	.17	3.52**
TLR	-.10	-.14, .05	.03	-.22	-3.77**	-.03	-.08, .01	.02	-.07	-1.33	-.04	-.16, .05	.02	-.09	-1.58	-.03	-.07, .01	.02	-.08	-1.50
TLGG	-.27	-.23, .07	.03	-.58	-9.57**	-.10	-.16, -.05	.03	-.23	-3.69**	-.11	-.08, .04	.03	-.23	-3.83**	-.12	-.17, -.06	.03	-.25	-4.02**
TLHP	.01	-.03, .03	.02	.01	0.08	.02	-.05, .04	.03	.04	1.15	.01	-.04, .01	.01	.04	1.37	.02	-.01, .04	.01	.04	1.38
TLIDS	-.04	-.06, .01	.02	-.10	-2.47*	-.02	-.16, .01	.01	-.05	-1.53	-.02	-.05, .01	.01	-.04	-1.09	-.01	-.04, .01	.01	-.04	-1.01
TLIS	.06	.03, .09	.02	.17	4.19**	.06	-.05, .08	.01	.15	4.49**	.06	-.16, .09	.01	.16	4.84**	.06	.04, .09	.01	.17	4.94**
IPRO						-.11	-.16, -.05	.03	-.21	-3.39**	-.11	-.05, .04	.03	-.19	-3.23**	-.11	-.17, -.04	.03	-.20	-3.18**
IADV						-.16	-.05, -.09	.03	-.30	-5.13**	-.15	-.16, .09	.03	-.28	-4.71**	-.14	-.21, -.08	.03	-.27	-4.67**
IENT						-.04	-.16, .25	.03	-.08	-1.27	-.04	-.05, .02	.03	-.09	-1.41	-.05	-.11, .01	.03	-.10	-1.58
IIM						-.09	-.13, -.05	.02	-.23	-4.74**	-.05	-.16, .04	.02	-.19	-4.11**	-.08	-.12, -.04	.02	-.20	-4.08**
SI											-.04	-.05, .02	.01	-.11	-3.11**	-.04	-.07, -.01	.02	-.09	-2.29*
SS											.01	-.16, .05	.02	.02	-2.51*	-.02	-.03, .06	.02	-.02	-2.01*
Job Sat																-.04	-.09, .01	.03	-.06	-1.75
R^2				.61** (ΔR^2=.61)					.72** (ΔR^2=.71)					.73** (ΔR^2=.72)				.73 (ΔR^2=.72)		

N = 390 (TM); TLV; transformational leadership vision; TLR = transformational leadership role model; TLGG = transformational leadership group goals; TLHP = transformational leadership high performance expectations; TLIDS = transformational leadership individual support; TLIS = transformational leadership intellectual stimulation IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; SI = social identity; SS = social support; STS = stress; JS = job satisfaction.

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

Table 4: *Hierarchical regression analyses for TL, ILI, SI, SS, and job satisfaction predicting stress in leaders (n =204)*.

	Step 1					Step 2					Step 3					Step 4				
Variable	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*
TLV	-.01	-12, .10	.06	-.09	-0.10	.02	-.14, .10	.06	-.03	-0.35	-.01	-.13, .11	.06	–.02	-0.18	.01	-.11, .13	.06	.02	0.16
TLR	-.26	-.05, -.11	.07	-.33	-3.50**	-.26	-.40, -.11	.08	-.37	-3.37**	-.25	-.39, -.10	.08	-.31	-3.30**	-.24	-.39, .09	.07	-.31	-3.34**
TLGG	-.06	-.19, .08	.07	-.08	-0.86	.05	-.21, .07	.07	-.10	-0.96	-.14	-.18, .10	.07	-.06	-0.56	-.04	-.18, .10	.04	-.06	-0.62
TLHP	-.01	-.09, .07	.04	-.02	-0.22	.15	-.08, .08	.04	-.01	-0.05	-.05	-.09, .07	.04	-.01	-0.18	.01	-.07, .08	.05	.03	0.38
TLIDS	-.04	-.11, .06	.04	-.05	-0.67	.05	-.13, .05	.05	-.07	-0.94	-.15	-.11, .08	.07	-.03	-0.32	-.01	-.10, .09	.05	-.02	-0.21
TLIS	.06	-.08, .10	.05	.01	0.16	.15	-.09, .10	.07	.01	0.09	-.05	-.10, .09	.08	-.01	-0.13	-.01	-.10, .09	.07	-.01	-0.14
IPRO						.05	-.14, .14	.07	.03	0.03	.15	-.12, .15	.07	.02	-0.23	.05	-.09, .19	.07	.07	0.66
IADV						.15	-.12, .19	.08	.15	0.43	.05	-.11, .20	.07	.05	0.63	.03	-.12, .19	.08	.05	0.42
IENT						.05	-.08, .19	.07	.05	0.85	.15	-.07, .20	.04	.15	1.01	.09	-.08, .19	.07	.09	0.86
IIM						.15	-.13, .05	.05	-.09	-0.96	-.05	-.13, .05	.05	-.08	-0.92	-.04	-.12, .05	.04	-.08	-0.82
SI											-.15	-.26, -.02	.04	-.05	-1.91*	-.04	-.22, .04	.04	-.08	-1.12
SS											-.14	-.12, .03	.06	-.17	-2.24*	-.09	-.12, .03	.07	-.11	-1.32
Job Sat																-.17	-.35, .01	.09	-.17	-2.01*
R^2					.17** (ΔR^2=.15)					.18 (ΔR^2=.14)					.21* (ΔR^2=.16)					.23* (ΔR^2=.17)

N = 204 (L); TLV; transformational leadership vision; TLR = transformational leadership role model; TLGG = transformational leadership group goals; TLHP = transformational leadership high performance expectations; TLIDS = transformational leadership individual support; TLIS = transformational leadership intellectual stimulation IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; SI = social identity; SS = social support; STS = stress; JS = job satisfaction.
Note. * $p < .05$, ** $p < .01$.

Comparing Leaders and Team Members

Identity Leadership. A one way (team members vs leaders) between subjects' multivariate analysis (MANOVA) indicated a significant difference in social identity leadership, Wilks' Lambda = .90, F (4, 589) = 17.318, p<0.01. In addition, Bonferroni adjusted pairwise comparisons indicated that team members report higher on social identity principles: prototype (p<0.01), advancement (p<0.01), entrepreneur (p<0.01) and embedder (p<0.01) compared to leaders. Please see Table 1 for all descriptive statistics.

Transformational leadership. A one way (team members vs leaders) between subjects' MANOVA indicated a significant difference in transformational leadership, Wilks' Lambda = .87, F (6, 587) = 14.067, p<0.01. Bonferroni adjusted pairwise comparisons indicated that team members report higher TL on all principles; vision (p<0.01), role modelling (p<0.05), group goals (p<0.01), high performance (p<0.01), intellectual stimulation (p<0.05) and lower individualised support (p<0.05).

Social Identity and Social Support. A one way (team members vs leaders) between subjects' MANOVA indicated a significant difference in social identity and social support, Wilks' Lambda = .93, F (2, 591) = 23.013, p<0.01. However, Bonferroni adjusted pairwise comparisons indicated that the team members feel higher social support (p<0.01) compared to the leaders and no difference in social identity (p>0.05).

Job Satisfaction. A between subjects t-test on job satisfaction indicated no significant differences between team members (M = 4.07, SD = .59) and leaders (M = 4.14, SD = .52), t (592) = -1.364, p = .173.

Stress. A between subjects *t*-test on stress indicated that leaders report higher stress (M = 2.57, SD = .52) compared to team members (M = 2.21, SD = .44), t (592) = -8.935, $p < .001$).

In summary, team members reported higher levels of identity leadership, transformational leadership (except individualised lower support), and social support. In addition, leaders reported higher stress levels, and there were no differences between social identity and job satisfaction. These results partially support hypothesis number four, as there were differences in TL, SIL, social support, and stress, but not social identity and job satisfaction between leaders and team members.

3.4 Discussion

The purpose of this chapter was to address the first and second aims of the thesis by examining the effects of leaders' and team members' perceived leadership on self-reported stress, exploring identity leadership in comparison to transformational leadership, and investigating whether social identity, support and job satisfaction added additional variance in reported stress. The results from the current study showed, as hypothesised (H1), a negative relationship between both leadership approaches (TL and SIL) and perceived stress in team members. However, although a negative relationship between transformational leadership and stress was discovered for leaders, social identity was not significantly associated with stress. Mixed evidence was found for H2, in that identity, leadership added variance beyond transformational leadership concerning stress for team members but not for leaders. Mixed evidence was found for H3, as social support and social identity were significantly negatively related to stress for both leaders and team members. However, job satisfaction was only significantly negatively related to stress for leaders and not team

members. In addition, further evidence was found for H3 as social support and social identity added variance on top of both leadership approaches (SIL & TL) concerning stress for both team members and leaders. Job satisfaction was found to add variance on top of SIL, TL, social support, and social identity in relation to stress for leaders but not for team members. Finally, there was mixed support for H4. Team members reported higher levels of social identity leadership, transformational leadership (except one principle), social support, and stress, but there were no differences between social identity and job satisfaction.

The current chapter adds three main contributions to the literature. First, social identity leadership was found to add variance beyond transformational leadership for team members' stress. In other words, beyond transformational leadership, perceptions of engagement in identity leadership by managers further explained the levels of stress reported by team members. Second, this study focussed on stress as the outcome rather than more motivational-related predictors of leadership effectiveness that are typically seen in the literature (van Knippenberg & van Knippenberg, 2005). In addition, with stress as the outcome, the study highlighted how other social factors (social identity and social support) add variance on top of leadership. Lastly, the study contributes valuable data for both leaders and their team members, not just exploring either population in isolation.

The findings have important theoretical and practical implications for analysing the relationship between leadership and stress. Previous research concerning the leadership-health link has demonstrated that leaders can reduce stress levels in the workplace by engaging in various behaviours that fulfil employees' individual needs (Arnold et al., 2007). For instance, one main line of research has shown that when leaders are seen by their followers to be more transformational (as typically measured by the MLQ), then those

followers also tend to have better health and well-being (Kelloway et al., 2012; Zwingmann et al., 2014; review Arnold & Connelly, 2013). However, at the same time, reviews suggest that we have a limited understanding of the variety of ways in which leaders impact followers' stress levels (Arnold et al., 2015). The present research thus advances the literature on the leadership and stress link by further broadening the spectrum of approaches that can explain how leaders' behaviour has a bearing on the leader and team member stress levels by pointing to the importance of leaders' social identity leadership in this regard.

These findings underscore the crucial role leadership has in an organisational context. In other words, how stressed leaders and their followers feel in their respective workplaces was associated with perceptions of transformational and identity leadership. This may be valuable as leaders tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick et al., 2005). Therefore, an essential component of leadership highlighted in this chapter is the importance of preparing leaders to manage work stress for themselves and their team members (Lovelace et al., 2007). It can then be started from the results (H1) that when both transformational leadership and social identity leadership are utilised by leaders and perceived to be high, team members themselves will have low-stress levels in organisations. This is helpful because, by extension, low stress is associated with better decision making (Mumford et al., 2007), reduced aggressive behaviour in the workplace (Sprague et al., 2011), and improved overall health (Hambrick et al., 2005). On the other side, the results highlight the effects positive leadership in the form of both transformational leadership and social identity leadership have on team members stress levels as they are negatively related, in other words, team members perceive to have low-stress levels because of the high level of leadership they perceive to receive from their leaders (Bardes & Piccolo, 2010). However, as this study is cross-

sectional, it provides only a one timepoint insight into this relationship. Accordingly, more longitudinal data needs to be analysed to paint a clearer picture of this complex dynamic.

These findings add to the extensive literature on transformational leadership and its effect on stress, as most studies have concluded that the transformational leadership approach significantly reduces stress for both leaders and their team members (Thomas, 2016). However, what the first hypothesis of this chapter has started to address is not only the first aim of the thesis but aiding in understanding to what extent social identity leadership has a relationship with stress but provides further insight into this relationship that has been researched in isolation previously (Steffens et al., 2017). Previous research has failed to use social identity leadership and stress as either dependent or independent variables to explain their relationship, whereas in this current study, stress is the central outcome and social identity leadership is the effect of said outcome (Steffens et al., 2017). Pearson correlations highlight the significant relationship between social identity leadership and stress, but the multiple hierarchical regression provides us greater depth to answer the second hypothesis.

Transformational leadership and identity leadership were found to add significant variance for leaders in connection with stress levels. However, this was not the case for team members, which was hypothesised initially (H2). These findings suggest that leaders who apply social identity leadership principles in addition to transformational principles will have lower stress levels as a result (van Dick et al., 2018). This cannot be said for team members, as transformational leadership highlighted it was significantly associated with stress. However, social identity leadership added no significant variance, highlighting that using transformational leadership principles as a leader will result in team members having lower stress levels (Thomas, 2016). Referring to the results of the leaders specifically, the variance

was significantly added when social identity leadership was added to transformational leadership in the regression, which is essential to highlight the extent to which leadership construct has a more significant effect on the stress levels on team members.

Furthermore, H2 partly addresses the first aim of the thesis, which highlights the relationship between social identity leadership and stress together, not in isolation (Steffens et al., 2017). Social identity theory and stress have been proven to be significantly related. A leader feels identity is firm with the organisation they work within, which in turn reduces stress levels of the leader (Haslam, 2004). However, there has been a limited amount of research and insight into the social identity approach to leadership and its relationship with stress until this study. From this present study, we can start to understand the significant impact social identity leadership and its principles have on leaders' stress levels. These findings further extend the pathway in aiding leaders to make more decisive decisions to benefit their team members and the organisation (Thompson, 2010).

Supporting H3, social identity, social support, and job satisfaction were negatively related to stress and added additional variance beyond leadership approaches. However, for team members, only social support and social identity were negatively associated with stress and added variance. Job satisfaction was not significantly associated with stress and failed to add any additional variance. This aligns with previous research that has highlighted the strong relationship between reduced stress levels for leaders when they perceive a stronger sense of identity in their organisation (Haslam et al., 2009). The result indicates that in addition to leadership, having a solid sense of identity with the organisation said person works at will therefore have negative associations with stress. In other words, a leader in a large organisation can feel less stressed not just due to their leadership approach but also by

how they view themselves as part of the organisation. In addition to this, social support added variance to leadership concerning stress levels of leaders and team members. This finding has primarily been discovered within research as leaders who perceive their colleagues in the workplace support them have negative associations with stress levels (Haslam et al., 2012).

This paints a picture started by previous researchers that indicated the significant relationship social support, social identity, and stress have due to people who feel they identify with their organisation having a more robust social network of support that reduces stress (Haslam et al., 2005). In addition, it can be said that social identity processes are essential to help buffer against stress and increase the effectiveness of social support in this relationship, as highlighted in the sociopsychobio model (Haslam et al., 2019). However, these findings highlight this relationship within senior leaders, and previous data was from a mix of people in the organisation's hierarchy. Therefore, we can see that senior leaders who deploy transformational leadership and social identity leadership feel a strong sense of social support, social identity which highlights negative associations with stress for these senior figures who make big decisions that affect themselves and others and the broader organisation. Social identity and social support act as buffers for the daily stressors senior leaders face in large organisations as they could possibly frame the stress as a threat to the group/organisation rather than the individual (Ketturant et al., 2016). The results also indicated that job satisfaction added variance, which was predicted due to its strong associations with issues at work, specifically, with reduced stress levels if job satisfaction was reported to be high (Gilboa et al., 2008). The results have highlighted that job satisfaction has a positive impact in addition to leadership in predicting how happy a leader is in their workplace (Kammerhoff et al., 2019). In addition, we can state that job satisfaction backs up findings in previous research that illustrates its links to stress levels in the

workplace (Berneth & Hirschfeld, 2016). In other words, job satisfaction plays a role in reducing stress levels for leaders due to the fact that if people enjoy the work that they do daily, this buffers the level of stress when performing our job role.

However, for team members, social identity and social support were significantly negatively associated with stress, yet job satisfaction was found to be not significantly associated. As highlighted previously, people in organisations have reduced stress levels when they identify with the organisation they work for and feel supported by their colleagues (Haslam et al., 2009). Although leaders who had lower stress levels were found to have job satisfaction as a potential buffer, this was not the case for team members who reported to these leaders. This finding goes in a different direction to what research has found: there is a significant relationship between stress and job satisfaction for followers (Berneth & Hirschfeld, 2016). Future research should explore this relationship further as there is apparent evidence that stress and job satisfaction are significantly related. However, this study's results highlighted no significant relationship between these for team members (Pecino et al., 2019).

Interestingly, looking at the descriptive statistics in table 1, team members rated their job satisfaction as high (4.07 out of 5), similar to leaders scores (4.17 out of 5), yet no relationship was found with stress. Again, this highlights the need for further understanding of the differences between leaders and team members regarding job satisfaction and its relationship with stress. A possible way to illustrate this is measuring job satisfaction over time rather than cross-sectionally to establish a more transparent relationship with stress for both leaders and team members. Overall, there is support for H3 as social identity, social support, and job satisfaction was negatively related to stress and explained additional

variance of the stress of leaders and team members apart from job satisfaction for team members.

Finally, the results indicate H4 is supported as significant differences in transformational leadership, social identity leadership, social identity, social support, and stress between leaders and team members but not for job satisfaction. Results highlighted the significant differences between leaders and their team members for both leadership approaches (TL & SIL). Team members reported higher than leaders in all four social identity leadership principles (prototype, advance, entrepreneur & embedder). Team members also reported higher in 5 out of six transformational leadership principles: vision, role modelling, group goals, high performance & intellectual stimulation. Leaders reported higher on one transformational principle, individualised support. Findings indicated a significant difference in social identity and social support between the leaders and their team members. In addition, comparisons indicated that the team members had higher social support than the leaders and no difference in social identity. Job satisfaction found no significant differences between leaders and their team members. Leaders were found to report a statistically higher stress level than their team members.

Social identity leadership and its four principles (prototype, advancement, entrepreneur & embedder) were significantly different between leaders and their team members, with team members reporting higher levels than their leaders. These findings offer further insight into the differing perceptions of leadership for both the leader and the team members. Within social identity leadership literature, we know the effectiveness of these leaders' capacity is to create, embody, advance, and embed a shared sense of identity with their team members (Steffens et al., 2014). This, however, does not explain why team

members perceive the leadership they receive from their leader as higher than how the leader perceives the leadership; they are offering these team members. A pivotal point, to begin with, is that research finds leaders are more likely to rate themselves higher than people perceive their leadership, but in this current study, this was not the case (Alicke & Govorun, 2005). Therefore, understanding differences between leaders and team members from previous research are critical in understanding why there was a significant difference between leaders and team members and why team members reported higher than leaders. To start, the Identity Leadership Inventory was used to measure perceived leadership of leaders by team members and for leaders to self-report how they believe how their leadership is perceived by their team members, which has been replicated within sporting contexts (Fransen et al., 2020; Krug et al., 2021). However, there is limited research comparing leaders and team members regarding social identity leadership with an organisational context as most research has focussed on either the leaders or the team members, not both (Steffens et al., 2017). Though this current study provides insight into the differences between leaders and team members perceiving social identity leadership, further data is needed. One possibility is evaluating this relationship using longitudinal design (Miller et al., 2020).

Transformational leadership had significant differences between team members and their leaders, in which team members again reported higher levels in 5 out of 6 of the transformational leadership principles (vision, role modelling, group goals, high performance, intellectual stimulation, and lower individualised support). This indicates similar results to social identity leadership as team members report higher levels than the leaders themselves, which illustrates that transformational leadership and its principles for followers has a more significant effect on performance (Wang et al., 2011). Both leadership theories were reported to be higher for followers compared to leaders, which indicates that leaders who satisfy

followers need social needs (i.e., social support, social identity, and low-stress levels) promote positive perceptions of leadership from followers but possibly not themselves due to the leader being part of the group rather than feeling they belong to an "out-group" (van Dick et al., 2018). Another possibility for this finding of team members rating their leaders higher than leaders rate themselves is the argument that within leadership, followers do not want to be seen as rating their leader as low on leadership. Research has highlighted that accurate behavioural measurement is essential to developing a science of leadership, yet accurate measurement has remained elusive. The use of follower reports of leader behaviour creates challenges given that a large body of basic and applied research suggests that behavioural ratings reflect not only recall of actual behaviours but also inferences based on semantic memory, which may vary among individuals (Hansbrough et al., 2015).

Social identity and social support were reported to be higher for team members than leaders, which could indicate colleagues lower in the hierarchy tend to have greater levels of identification with people in their team role-specific relationships than the broader organisation, which leaders may feel is limited as their working circle in this context was smaller than team members (Sluss et al., 2012). However, job satisfaction was found to have no significant differences between the two populations. This could result from the relationship between the leader and the team members, which was not fully captured within the study. Previous research highlights how the strength of the relationship between leader and follower indicates job satisfaction for followers (Belias & Koustelios, 2014).

Aside from implications for theory and practice, this study is subject to some limitations. Firstly, due to the cross-sectional survey, the causal inferences about the hypothesised relationships are based on the structural coefficients and nomological

relationships between constructs. Nevertheless, it is feasible to suggest that direct reports with close personal relationships with their senior leaders will rate high transformational and social identity leadership levels. Further longitudinal field studies should be conducted to determine relationships over time, examined in Chapter 3.

Secondly, other styles of leadership, such as ethical leadership (Walumbwa et al., 2011), empowering leadership (Srivastava et al., 2006), or humble leadership (Owens & Hekman, 2016), were not controlled for. These leadership behaviours may also be effective in blue-chip organisations; future studies may test and compare different leadership styles' influence on work outcomes. However, this study has tested two of the leading leadership theories and has highlighted the need for more research on social identity leadership compared to transformational leadership due to it adding variance to stress.

Another potential area of concern is the role of individual and environmental factors as moderators of the relationships between leadership and stress. There is extensive evidence that such moderators are present in the broader stress (Halbesleben & Buckley, 2004), but they remain relatively unexplored in the leadership context. This also leads to exploring the multiple sources of social identification in the workplace that we are assuming. However, the team they work with is their primary source when there could be other sources that have significant effects on the levels of social identification each person has. This could also affect people's well-being as they may use other sources of social identification to enhance their well-being; therefore, management might not be the root cause of lowering stress.

Currently, within the literature, studies that have similar findings have used the same methodologies (cross-sectional), which does not enable an opportunity to see the full scope of the data over time (Harms et al., 2017). Further research needs to expand on the links

between leadership and stress, such as the effect of leadership over a period and how, over this time, the effect that leadership has on not just direct report stress but, importantly, the stress of the leader. In addition, those surveyed in this study were entirely reliant on same-source, contemporary design. These circumstances leave the possibility that at least some of the observed effects could be attributed to rater biases.

The context in which the data was collected is essential to highlight. The blue-chip organisation wanted complete anonymity for all participants apart from distinguishing between a senior leader or that leader's direct report/team member. This provided access to leaders working and leading in a dynamic market who face daily pressures to deliver results. Although there is no further demographic information, which is a limitation, by using this population of participants, we get a real sense of what leaders and team members need to perform in a high-pressure environment that demands psychological and psychosocial resources to thrive.

In summary, this chapter has provided several new contributions to the extant literature; social identity leadership explained additional variance to transformational leadership in relation to stress for team members; stress was used as an outcome of leadership rather than a predictor and that social identity and social support explained variance beyond leadership in relation to stress for leaders and team members. Alongside the new contributions, this chapter has addressed two of the thesis's aims; examining the influence of leaders' and team members' perceived leadership on self-reported stress and examining the theory of social identity leadership compared to transformational leadership. To conclude, the present study provides valuable evidence for social identity leadership as an approach leader should use as it is negatively associated with stress. Social identity leadership added

significant variance in addition to transformational leadership, highlighting it goes above and beyond the effects of transformational leadership for team members but not leaders in this case (van Dick et al., 2018). Further research is needed to establish the differences between transformational leadership and social identity leadership regarding stress. This may be examined over time using longitudinal methodology rather than cross-sectional to provide greater depth of this relationship. We can see the effects of leadership on the stress levels of both leaders and their followers, which this study contributes to (Harms et al., 2017). This is valuable for large organisations who want to examine employees' stress levels in the modern working world as leadership plays a vital role in stress (Health & Safety Executive, 2019). Stress has been used as an outcome of leadership rather than a predictor in this study which most previous research has focussed upon (Harms et al., 2017). The next chapter will address these aims of the thesis further and to examine another by investigating leadership and stress over time within a large organisation rather than cross-sectionally.

CHAPTER 4: A LONGITUDINAL EXPLORATION OF THE EFFECT OF LEADERSHIP ON LEADER AND FOLLOWER STRESS WITHIN A BLUE-CHIP ORGANISATION.

4.1 Introduction

The previous chapter indicated that leaders perceived to offer high levels of transformational leadership and social identity leadership were negatively related to stress for team members but not their leaders. Further, evidence was discovered for social identity leadership adding variance on top of transformational leadership for team members; this was not the case for leaders. Social support, social identity and job satisfaction added variance on top of leadership in reducing stress levels for leaders. Social support and social identity added variance to leadership in cross-sectionally explaining their stress levels for team members. Evidence in Chapter 2 was also reported on the differences between leaders and their team members regarding how leadership and social factors affected stress levels for both populations. The current chapter aims to build on the previous chapter and address the thesis's aims one, two, and three. The previous chapter addressed three aims of the thesis; examining the effects of leaders' and team members perceived social identity leadership and transformational leadership on self-reported stress; exploring whether social identity leadership adds variance in leaders and followers stress levels beyond transformational leadership and investigating beyond leadership are social identity, social support and job satisfaction associated with self-reported stress. This chapter will address these aims and further extend chapter two by exploring these aims longitudinally rather than cross-sectionally.

Workplace stress is the number one cause of stress in people's lives, with the number of people being absent from work due to stress increasing every year (Health & Safety Executive, 2019). Therefore, it is crucial for organisations to address the stress levels of their people as it affects not only the employees but the organisations' effectiveness overall (Cartwright & Cooper, 2009). Stress can be defined as the physiological and psychological arousal that occurs when an individual perceives a threat to something of value. That threat uses valuable resources to confront it (LepPine et al., 2004). Although stress researchers have argued that moderate stress levels can help activate behaviours and cognitions, too much stress tends to be detrimental to physical and psychological health (Bakker et al., 2007). The level of stress an individual feels depends on the trigger or event that has caused the individual to use valuable resources to confront it, for example, an email late at night that needs to be actioned for the next day (Hobfoll, 1989). For an event to be experienced as stressful, it much is appraised as such, a notion centred around Lazarus' cognitive appraisal theory (Lazarus & Folkman, 1984). Individuals will assess an event according to its relevance to their welfare and situational characteristics (Lazarus & Folkman, 1984).

The meaning of a situation and its factors depends on appraising the personal significance of adaptational encounters with others and the environment (Lazarus, 2000). The transactional approach is the individual's appraisal of the situational relevance to well-being that potentially leads to a stress appraisal rather than the situation itself. Rather than identifying stressors, research should identify the rules and social factors that make an individual appraise an event as stressful (Lazarus, 1999). It has been suggested that a shared social identity can influence the appraisal process by providing a common interpretive framework (Haslam & Reicher, 2006a). Social Identity Theory (SIT; Tajfel & Turner, 1979) and Self-Categorisation Theory (Turner et al., 1987) which suggests that the groups we

belong to define who we are, and how an individual thinks and behaves are coherent with their personal or social identity (Tajfel & Turner, 1979). For example, when individuals perceive a meaningful attachment to a group, their thought processes and actions adapt to their social identity (Adarves-Yorno et al., 2006). Researchers have shown that the more significant number of groups an individual identifies with is typically associated with better health and well-being outcomes (Sani et al., 2015). For instance, within the sociopsychobio model (Haslam et al., 2019), social identity processes are crucial and can be seen to buffer against stress in three ways: 1) social identity alters appraisal processes, 2) social identity increases social support, and 3) social identity increases the effectiveness of social support (Haslam et al., 2009).

Members of the group share common perspectives on the situation and interpret it similarly (Haslam et al., 2005). Scholars have suggested that social identity can shift the individual to group level (Ketturat et al., 2016). As a result, when coping with a stressor, the resources from the group are considered within the individual appraisal process (Haslam et al., 2005). Individuals who identify strongly with a particular group (e.g., within an organisation) are also more likely to experience social support from other group members (Avanzi et al., 2015; Haslam et al., 2005). In other words, individuals are more likely to offer help to people they perceive as belonging to the in-group, and equally, they are more likely to receive help from others who perceive them as belonging to the same in-group (Levine et al., 2005).

Additionally, having multiple group memberships means one is likely to have access to more sources of social support (Haslam et al., 2008). Research has also highlighted the relationships between social identification and lower stress and greater job satisfaction,

mediated by social support (Haslam et al., 2005). Job satisfaction provides another strong indicator of employee well-being due to its strong relationship with stress and social support. According to researchers, it should be used more often to measure employee health (Pecino et al., 2019). Despite the reported benefits of social identification and social support outlined above, stress and coping literature tend to be individualistically focused, omitting the social relationships and groups (Folkman & Moskowitz, 2004). A potential insight into this is exploring this through the lens of leadership, as a sense of shared social identity has also been shown to underpin both leadership and followership (Ellemers et al., 2004).

Leadership has a vital role in shaping employees' stress for better or worse. For instance, evidence shows that leaders' display of abusive supervision is associated with more significant stress among subordinates (Mackey et al., 2015). Moreover, in the last decade, research into the impact of leadership on employee stress has proliferated and become an important research topic (Wegge et al., 2014). Nevertheless, reviews by Kuoppala et al., (2008) and Skakon et al., (2010) suggest that while we know that leaders can and do affect employees' stress, our understanding of how leaders' actions might foster employee health.

The largest body of previous work on this topic has examined the relationship between transformational leadership and employee well-being (Arnold et al., 2007; Kelloway et al., 2012). Indeed, around 25% of empirical articles identified in the comprehensive review of the leadership and health field (Skakon et al., 2010) examined the effect of transformational leadership, while around 30% investigated the effect of leaders' support or consideration of employees' individual needs (a key component of transformational leadership; Bass & Riggio, 2006). The transformational leadership theory has been considered a desirable set of behaviours bringing about challenges for followers. However,

simultaneously, it is recognised that this type of leadership also puts increased demands on subordinates' skills, which can significantly impact stress levels (Parveen & Adeinat, 2019). In addition, transformational leadership increases the employees' job-related stress, probably because this approach challenges them to be more creative and innovative in their work. Specific criticism of transformational leadership was initially conceptualised at the individual level (Bass, 1985; Podsakoff et al., 1990) and is considered an interpersonally oriented leadership approach rather than a group approach (Hansen et al., 2014).

The shift away from individualism in organisations has highlighted the potential benefits of focusing on group functioning regarding leadership (Slater et al., 2016). Social identity leadership (SIL) is concerned with intimately connected leadership to group processes. That successful and enduring leadership develops, manages, advances, and embeds a shared group identity (Haslam et al., 2020). Empirical evidence supporting SIL is significant and established across varied methodologies and contexts (Steffens et al., 2014). For instance, leaders who lead in line with social identity principles, such as representing the in-group, are more trusted (Giessner & van Knippenberg, 2008), influential (Subašić et al., 2011), and practical (van Knippenberg & van Knippenberg, 2005). Four principles of SIL have been outlined, (a) leaders as in-group prototypes, (b) leaders as in-group champions, (c) leaders as entrepreneurs of identity, and (d) leaders as embedders of identity (Haslam et al., 2020). However, researchers have paid little attention to how leadership might impact employee stress that helps create and shape a sense of collective identity (Epitropaki et al., 2016). This void is surprising given that in many work contexts, leadership responsibilities are structured around teams and other collectives (Hackman & Wageman, 2004). Furthermore, there is growing evidence of the importance of leaders in creating and shaping collective identity within the teams they lead, with studies identifying essential relationships

with several key outcomes, including leaders' capacity to mobilise and secure endorsement from followers (Slater et al., 2016).

Therefore, this chapter will further understand the relationship between social identity leadership and the self-reported stress of both leaders and their followers within a high-pressure organisation. Previous research, including the previous chapter, provided a limited depth of this relationship due to the cross-sectional design, which meant only a limited number of interferences could be drawn about this relationship's causal or time-sequential nature (Steffens et al., 2014). This chapter will employ a longitudinal design to capture a larger snapshot of social identity leadership and transformational leadership and its effects on stress over six months. All variables used in the previous chapter (SIL, TL, social identity, social support, job satisfaction and stress) will be replicated within this study to address the thesis further aims already outlined before. The chapter will continue to use transformational leadership as a leading leadership theory to compare social identity leadership due to transformational leaderships' extensive research and relationship with stress in leaders and followers. In addition, all social variables (social identity, social support & job satisfaction) used in the previous chapter will be applied again to illustrate if the additional variance is added on top of leadership concerning stress as an outcome.

Expanding upon the extant literature, the influence of social identity leadership on the stress levels of both executive level leaders and their team members will be examined over time. The current chapter will address and expand aims one, two, and three of the thesis; examining the effects of leaders’ and team members perceived social identity leadership and transformational leadership on self-reported stress longitudinally; exploring whether social identity leadership adds variance in leaders and followers stress levels beyond

transformational leadership over time and investigating beyond leadership are social identity, social support and job satisfaction associated with self-reported stress over time. Based on previous research and results from chapter two, it was hypothesised that there would be a negative relationship between both leadership approaches (TL and SIL) and perceived stress in leaders and team members longitudinally (H1), social identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members over time (H2), social identity, social support, and job satisfaction will be negatively related to stress and explain the additional variance of the stress of leaders and team members over time (H3). Finally, there will be differences in TL, SIL, social identity, support, job satisfaction, and stress between leaders and team members over time (H4).

4.2 Method

4.2.1 Participants and Design

In total, 131 participants consisting of senior leaders (n = 21) in a blue-chip organisation and their followers/team members (n = 105) completed questionnaires. No data on gender or age was captured due to sensitivity concerns associated with the organisation involved. In other words, the demographic data could not be collected due to an agreement with the organisation that data was collected from. All participants were given complete anonymity apart from the question of identifying if you are either a leader or a direct report. A longitudinal design was adopted with a blue-chip organisation operating as the largest co-operative in New Zealand. Participants were senior executives that operated at the board level (leaders) and their upper management (team members) who directly reported to these specific leaders. To emphasise the strength of the participant population increases the research literatures insights into organisational dynamics with very senior leaders that often are not

accounted for in the literature (Gordon & Yukl, 2004). The challenges of gaining access to such data was to not provide any demographic data that could trace responses back to an individual or a team department. The design was two-wave longitudinal, capturing data six months apart based upon previous longitudinal social identity research over a similar period (Miller et al., 2020).

4.2.2 Measures

See General Methods Chapter for more detail on measures used.

4.2.3 Procedure

Participants were recruited through Impact International, a world-leading leadership development company that partners with large organisations. The participants were from one of Impact International's largest clients based in New Zealand. The organisation that participants were recruited from is the largest co-operative in New Zealand. Collaborating from the senior executives was needed before any information regarding the research could be sent out. After several meetings, the senior board agreed to the research to be conducted. The ask was to have access to the most senior leaders within the organisation. Specifically, leaders were asked to be senior executives or above and to use their direct reports as followers. Within traditional organisational structures there is fewer senior leaders than team member (those who directly reported to senior management) so there was naturally a limited sample size. The leaders in question were only once removed from the C-suite level which includes the chief executive officer, chief financial officer, and chief operations officer. Therefore, the population of senior leaders where very high in the organisations hierarchy and so were their team members, who themselves were leaders of others in the organisation.

An information sheet and consent provided an outline of the study and the opportunity for participants to give indication of their participation in the research study. After gaining consent, the participants were invited to complete the study measures via a link to the online survey through their work email, which was permitted to through their human resources department and in collaboration with the IT department as well.

Participants were asked to follow a link to the online Qualtrics system survey. No demographic data (age, gender, length of employment, etc.) was taken because the organisation wanted participants to have complete anonymity. However, access was permitted to ask if they were a leader or a team member in this study. Leaders and their team members filled out different versions of the same leadership questionnaires and completed the same questionnaires on social support, social identity, job satisfaction, and perceived stress. Leaders self-reported their leadership ability in the context of transformational leadership and social identity leadership. In addition, followers self-reported the leadership they perceived they received from their leaders. This process was repeated six months later to collect data for a second time point. All participants had the right to withdraw their consent at any given time. In total, 24 leaders and 120 team members reported their responses at time point 1. Following timepoint 2, three leaders and 15 team members withdrew from the study.

4.2.4 Analytical Strategy

Data were first examined for outliers and normality to ensure data met the assumptions for parametric testing. Significant outliers with *z* scores greater than two were winsorised (Salkind et al., 2010; Smith, 2014). This is a process in which extreme values are replaced to reduce the influence of outliers on the data. Next, data analyses were completed in three phases to test H1, H2, H3 and H4. Initially, to test H1, Pearson correlations were

carried out between social identity leadership, transformational leadership and stress at both time point 1 and time point 2 (H1) (Dalecki & Willits, 1991). To further test H1, test H2 and H3, a four-step multiple hierarchical regression was utilised to explain if social identity leadership explained additional variance beyond transformational leadership in the perceived stress of leaders and team members over time and if social identity, social support, and job satisfaction will be negatively related to stress and explain the additional variance of the stress of leaders and team members over time. The four-step process replicated the analysis used in the previous chapter, but in this chapter, the focus is on using stress as an outcome at time point 2. Finally, to address H4, MANOVA's and t-tests will highlight the differences in TL, SIL, social identity, support, job satisfaction, and stress between leaders and team members across time point 1 and time point 2 (H4). Leaders will be analysed using the global mean scores for identity leadership and transformational leadership due to power concerns associated with the low sample size (Faul et al., 2009). Team members' data has sufficient power size as analysis using G*Power highlighted that a minimum of 74 participants are needed for the number of tested variables (Faul et al., 2009). These statistical tests were used to best utilise the data available based upon previous similar research using similar variables and participant numbers (Steffens et al., 2018; Miller at al., 2020).

4.3 Results

Descriptive Statistics

Means standard deviations of variables have been shown in Table 5. The descriptive statistics highlight the score of each variable used within this chapter. For example, leaders rated themselves higher than team members on all but one leadership score (transformational

high-performance expectations) over both time points. It is also worth noting that leaders rated themselves higher at both time points for stress.

Table 5: *Descriptive statistics for leaders (n = 21) and team member (n = 105) at T1 and T2*

	Time Point 1		Time Point 2	
	Leaders M (SD)	Followers M (SD)	Leaders M (SD)	Followers M (SD)
IPRO	5.54 (0.38)	5.44 (1.17)	5.81 (0.74)	5.54 (1.21)
IADV	5.75 (0.47)	5.74 (1.13)	6.17 (0.53)	5.70 (1.17)
IENT	5.80 (0.44)	5.44 (1.23)	5.58 (0.46)	5.46 (1.25)
IIM	5.14 (0.84)	5.11 (1.34)	5.29 (0.75)	5.23 (1.33)
TLV	5.29 (0.70)	5.18 (1.19)	5.70 (0.38)	5.39 (1.13)
TLR	5.22 (0.91)	5.24 (1.44)	5.44 (0.52)	5.20 (1.50)
TLGG	5.85 (0.70)	5.58 (1.18)	5.82 (0.61)	5.49 (1.23)
TLHP	5.37 (0.80)	5.38 (0.93)	5.10 (0.84)	5.47 (1.09)
TLIDS	5.65 (1.00)	5.43 (1.15)	5.69 (0.73)	5.19 (1.20)
TLIS	5.03 (0.68)	4.90 (1.10)	4.97 (0.79)	5.17 (0.97)
SI	5.48 (1.03)	4.94 (1.22)	5.57 (0.98)	5.58 (1.07)
SS	3.64 (0.62)	3.84 (0.82)	4.02 (0.58)	3.90 (0.78)
JS	4.04 (0.20)	3.91 (0.58)	3.94 (0.70)	4.13 (0.68)
Stress	2.52 (0.46)	2.87 (0.35)	1.57 (0.49)	2.29 (1.00)

N = 105(TM), N = 21 (L); SI = social identity; SS = social support; STS = stress; JS = job satisfaction;; IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; TLV; transformational leadership vision; TLR = transformational leadership role model; TLGG = transformational leadership group goals; TLHP = transformational leadership high performance expectations; TLIDS = transformational leadership individual support; TLIS = transformational leadership intellectual stimulation.

Correlational Analyses – Leaders. Table 6 sets out Pearson's correlations for all variables for leaders at time point 1 and time point 2. In partial support of hypothesis one, that there would be a negative relationship between both leadership approaches (TL and SIL) and perceived stress in leaders and team members longitudinally , a negative relationship between the transformational leadership (*ß*=-.54, $p<0.05$) and perceived stress in leaders was highlighted. No additional support for each hypothesis; that there would be a negative relationship between both leadership approaches (TL and SIL) and perceived stress in leaders and team members longitudinally (H1), social identity leadership will explain additional variance beyond transformational leadership in the perceived stress of leaders and team members over time (H2), social identity, social support, and job satisfaction will be

negatively related to stress and explain the additional variance of the stress of leaders and team members over time (H3). Finally, there will be differences in TL, SIL, social identity, support, job satisfaction, and stress between leaders and team members over time (H4). These correlations provide partial support for H1 and H3, but further analysis is needed via multiple hierarchical regression, MANOVA's and t-tests to further explore each hypothesis for leaders.

Table 6: *Correlations Leaders = (vertical)Time Point 1 (TP1) vs (horizontal) Time Point 2 (TP2)*

	TL	SL	SI	SS	JS	STS
TL						
SL	-.11					
SI	.40	.38				
SS	.12	.03	.05			
JS	-.17	.64	-.24	-.28		
STS	-.54*	-.32	-.05	-.03	-.22	

N = 21 (L); TL = transformational leadership; SIL = social identity leadership; SI = social identity; SS = social support; JS = job satisfaction; STS = stress.
* p< .05.

Correlational Analyses - Team Members. Table 7 outlines the correlations of all variables for team members at time point 1 and time point 2. These correlations provided no support for any hypothesis, but further analysis is needed via multiple hierarchical regression, MANOVA's and t-tests to explore each hypothesis further for team members.

Table 7: Correlations *Team Members (Left) = Time Point 1 (TP1); Right = Time Point 2 (TP2)*

	IPRO	IADV	IENT	IIM	TLV	TLR	TLGG	TLHP	TLIDS	TLIS	SI	SS	JS	STS
IPRO														
IADV	.01													
IENT	.01	.01												
IIM	.07	.05	.11											
TLV	.04	.01	.05	.12										
TLR	.08	.02	.08	.16	.23*									
TLGG	.06	.03	.09	.17	.21*	.16								
TLHP	.04	.01	.03	.02	.12	.06	.05							
TLIDS	.08	-.02	.04	.11	.18	.09	-.01	.11						
TLIS	-.04	-.09	-.03	.04	.07	.02	-.02	.07	-.03					
SI	.11	.05	.11	.19	.25*	.19*	.08	.30**	-.03	.27**				
SS	-.01	-.06	-.03	.04	.09	.03	-.05	.05	-.14	.16	.01			
JS	.02	.01	-.02	-.06	-.02	.02	-.06	.03	-.05	.01	.14	.09		
STS	-.02	.02	-.04	-.01	-.07	.01	.01	-.03	-.06	-.03	.09	-.10	-.02	

N = 105 (L); SI = social identity; SS = social support; STS = stress; JS = job satisfaction;; IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; TLV; transformational leadership vision; TLR = transformational leadership role model; TLGG = transformational leadership group goals; TLHP = transformational leadership high performance expectations; TLIDS = transformational leadership individual support; TLIS = transformational leadership intellectual stimulation.

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

Leaders Regression Analyses. Results from the multiple hierarchical regression for leaders (Table 8) indicate that transformational leadership accounts for 12% (r^2= .08) variance in stress, the regression was not significant (F (1, 19) = 2.698, p>0.05). Adding the identity leadership principles at step 2 added an additional 1% (r^2 =.03) variance in stress, and the model was not significant (F (1, 18) = 1.300, p>0.05). These two steps do not support hypothesis number one as neither transformational leadership at step 1, nor social identity leadership at step two were significant. There is no support for hypothesis number two as identity leadership added no significant variance to transformational leadership in conjunction with stress. Step 3 for social identity and social support were found to be significant (F (2, 16) = 3.832, p<0.05) and added 36% (r^2 =.36) variance in stress. Step 4 for job satisfaction (F (1, 15) = 3.641, p>0.05) was not significant. Step 3 partially supports hypothesis number three that social identity, social support, and job satisfaction will be negatively related to stress and explain the additional variance of the stress of leaders and team members over time as social support, and social identity added significant variance to stress. Step 1 and step 2 of the ANOVA models were not significant, step 1 (F (1, 14) = 2.698, p>0.05), step 2 (F (2, 18), 1.300, p>0.05). However, step 3 (F (4, 16) = 3.832, p<0.05)

and step 4 (F (5, 15) = 3.641, p<0.05) were significant. At step 3, the betas indicated social identity (β = -.29, p<0.01) as negative and social support (β =.55, p<0.05) as positive. At step 4, the betas indicated social identity (β = -.28, p<0.01) as negative and social support (β =.49, p<0.05) as positive. In summary, support was found for hypothesis number three as social support and social identity added variance on top of both leadership approaches concerning stress. The negative association between social identity and stress was in the expected direction, while the positive association between social support and stress was in the opposite direction to what was expected.

Team Members Regression Analyses. Results from the multiple hierarchical regression for team members (Table 9) indicate that transformational leadership accounts for 3% (r^2= .03) variance in stress, the regression was not significant (F (6, 98) = 0.528, p>0.05). Adding the identity leadership principles at step 2 added an additional 3% (r^2 = .06) variance in stress, and the model was not significant (F (10, 94) = 0.591, p>0.05). These two steps do not support H1 as neither transformational leadership at step 1 nor social identity leadership at step two were significant. There is no support for H2 as identity leadership added no significant variance to transformational leadership in conjunction with stress. Step 3 for social identity and social support were found to be not significant (F (12, 92) = 0.721, p>0.05). Step 4 for job satisfaction (F (13, 91) = 0.737, p>0.05) was also not significant. Steps 3 and 4 provide support for hypothesis three as social identity, social support, and job satisfaction were negatively related to stress and explain the additional variance of the stress of leaders and team members over time as all three variables added significant variance to stress. All ANOVA models were non-significant, step 1 (F (6, 98) = 0.528, p>0.05), step 2 (F (10, 94), 0.591, p>0.05), step 3 (F (12, 92) = 0.721, p>0.05) and step 4 (F (13, 91) = 0.737, p>0.05). In summary, no support was found for any hypothesis from the regression results.

Table 8: *Hierarchical regression analyses for TL, ILI, SI, SS, and job satisfaction (Timepoint 1) predicting stress in leaders (Timepoint 2)*

	Step 1					Step 2					Step 3					Step 4				
Variable	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*
TL	-.41	–.93, .11	.25	-.35	-1.64	-.44	–1.06, .18	.30	-.38	-1.48	-.22	–.76, .32	.25	-.19	-0.86	-.23	–.75, .30	.25	-.20	-0.92
SIL						.08	–.75, .90	.39	.05	0.19	-.01	–.69, .67	.32	-.01	-0.04	-.19	–.91, .53	.34	-.13	-0.57
SI											-.29	–.49, .09	.09	-.61	-3.13**	-.28	–.47, -.09	.09	-.58	-3.06**
SS											.55	.06, 1.03	.23	.49	2.39*	.49	.05, .97	.23	.44	2.15*
Job Sat																.68	–.38, 1.72	.49	.27	1.40
R^2				.12 (ΔR^2=.08)					.13 (ΔR^2=.03)					.49* (ΔR^2=.36)				.55 (ΔR^2=.40)		

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

Table 9: *Hierarchical regression analyses for TL, ILI, SI, SS, & JS (Timepoint 1) predicting stress in team members (Timepoint 2)*

	Step 1					Step 2					Step 3					Step 4				
Variable	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*	*b*	95% CIs	*SE*	*β*	*t*
TLV	-.28	–.65, .10	.19	-.33	-1.45	-.34	–.77, .08	.21	-.41	-1.6	-.29	–.72, .14	.22	-.35	-1.35	-.37	–.83, .09	.23	-.44	-1.60
TLR	.16	–.23, .55	.20	.24	0.84	.02	–.46, .49	.24	.03	0.07	.003	–.48, .49	.24	.01	0.01	.06	–.44, .56	.25	.09	0.24
TLGG	.11	–.33, .55	.22	.13	0.50	.21	–29, .71	.25	.25	0.84	.28	–.24, .81	.26	.33	1.08	.27	–.25, .79	.26	.32	1.03
TLHP	-.02	–.29, .25	.14	-.02	-0.17	.08	–.23, .38	.15	.07	0.51	.04	–.27, .35	.16	.04	0.27	.03	–.28, .35	.16	.03	0.22
TLIDS	-.09	–.33, .14	.12	-.11	-0.76	-.16	–.42, .10	.13	-.19	-1.2	-.13	–.40, .13	.14	-.15	-.99	-.12	–.39, .15	.14	-.14	-0.91
TLIS	.02	–.21, .25	.11	.02	0.17	.04	–.19, .28	.12	.05	0.35	.05	–.19, .28	.12	.05	0.38	.06	–.18, .29	.12	.06	0.46
IPRO						.07	–.49, .64	.29	.09	0.26	.02	–.56, .59	.29	.02	0.06	.07	–.52, .65	.29	.08	0.23
IADV						.34	–.22, .64	.28	.39	1.21	.32	–.25, .88	.28	.36	1.12	.29	–.27, .86	.29	.33	1.03
IENT						-.44	–1.0, .15	.30	-.54	-1.5	-.22	–.87, .42	.32	-.28	-.69	-.25	–.89, .40	.33	-.30	-0.75
IIM						.19	–.17, .55	.18	.25	1.05	.12	–.25, .48	.19	.16	0.63	.12	–.24, .49	.19	.17	0.67
SI											.10	–.08, .29	.09	.13	1.12	.11	–.07, .29	.09	.13	1.18
SS											-.34	–.25, 1.2	.26	-.28	-1.34	-.42	–.96, .11	.27	-.35	-1.57
Job Sat																.21	–.23, .66	.22	.12	0.96
R^2				.03 (ΔR^2=.-.03)					.06 (ΔR^2=-.04)					.09 (ΔR^2=-.03)					.10 (ΔR^2=-.03)	

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

Comparing Leaders and Team Members

Identity Leadership. A 2 (time: T1 vs T2) X 2 (group: Leader vs Team Member) multivariate analysis of variance (MANOVA) revealed a non-significant main effect for time, Wilks' Λ =.99, F (1, 124) = 0.224, p =.637, η_p^2 = .002, for identity leadership. There was a non-significant main effect for group, Wilks' Λ = 1.00, F (1, 124) = 1.619, p = .206, η_p^2 = .013, and a non-significant interaction between time and group, Wilks' Λ = .87, F (1, 124) = 0.040, p = .841, η_p^2 = .00. As seen in Table 5 the descriptive statistics indicate that in general leaders reported higher levels of identity leadership compared to followers, and there was and increase form TP1 to TP2. However, Bonferroni adjusted pairwise comparisons indicated no statistically significant follow up differences. (All *p's*>.224).

Transformational Leadership. A 2 (time: TP1 vs TP2) X 2 (group: Leader vs Follower) multivariate analysis of variance (MANOVA) revealed a non-significant main effect for time, Wilks' Λ = .99, F (1, 124) = 0.178, p =.674, η_p^2 =.001, for transformational leadership. There was a non-significant main effect for group, Wilks' Λ =.99, F (1, 124) = 0.521, p = .472, η_p^2 = .004, and a non-significant interaction between time and group, Wilks' Λ = .99, F (1, 124) = 0.663, p = .417, η_p^2 = .005. As seen in table 5 the descriptive statistics indicate that in general leaders reported higher levels of transformational leadership compared to followers, and there was and increase form TP1 to TP2. However, Bonferroni adjusted pairwise comparisons indicated no statistically significant follow up differences. (All *p's*>.417).

Social Identity and Social Support. A 2 (time: TP1 vs TP2) X 2 (group: Leader vs Follower) multivariate analysis of variance (MANOVA) revealed a non-significant main effect for time, Wilks' Λ = .96, F (2, 123) = 2.381, p =.097, η_p^2 = .037, on social identity and

social support. There was a non-significant main effect for group, Wilks' Λ = .98, F (2, 123) = 1.08, p = .364, η_p^2 = .016, and a non-significant interaction between time and group, Wilks' Λ = .96, F (2, 123) = 2.833, p = .063, η_p^2 = .044. As displayed in Table 5, follow-up pairwise comparisons indicated that follower's social identity increased from TP1 (M=4.94, SD=1.22) to TP2 (M=5.58, SD=1.07, p<0.001). All other pairwise comparisons were non-significant.

Job Satisfaction. A 2 (time: TP1 vs TP2) X 2 (group: Leader vs Follower) analysis of variance (ANOVA) revealed a non-significant main effect for time, Wilks' Λ = .99, F (1, 124) = 0.33, p =.567, η_p^2 = .003, on job satisfaction. There was a non-significant main effect for group, Wilks' Λ = .98, F (1, 124) = 0.96, p = .757, η_p^2 = .001, and a non-significant interaction between time and group, Wilks' Λ = .98, F (1, 124) = 2.26, p = .135, η_p^2 = .02. No pairwise comparisons were significant.

Stress. A 2 (time: TP1 vs TP2) X 2 (group: Leader vs Follower) analysis of variance (ANOVA) revealed a significant main effect for time, Wilks' Λ = .76, F (1, 124) = 38.30, p <0.001, η_p^2 = .24, on stress. There was a non- significant main effect for group, Wilks' Λ = .98, F (1, 124) = 2.32, p = .130, η_p^2 = .02, and a non-significant interaction between time and group, Wilks' Λ = .98, F (1, 124) = 2.32, p = .130, η_p^2 = .02. As displayed in table 5, follow-up pairwise comparisons indicated that leader's and follower's stress reduced from T1 (M=2.81, SD=0.39) to T2 (M=2.17, SD=0.97, p<0.001). All other pairwise comparisons were non-significant.

4.4 Discussion

The purpose of this chapter was to address aims one, two, and three of the thesis by examining the influence of leaders' and team members perceived social identity leadership and transformational leadership on self-reported stress over time; exploring whether social identity leadership adds variance in leaders and followers stress levels beyond transformational leadership over time and investigating beyond leadership are social identity, social support and job satisfaction associated with self-reported stress over time. This builds on chapter two, evaluating the relationships between leadership and stress for both leaders and their team members. However, this chapter develops beyond chapter two by examining these stated aims of the thesis over time (two-time points, six months apart) rather than a single time point. This extends the literature due to the lack of longitudinal research examining the relationship between social identity leadership and its influence on leaders and team members stress over time. The results of this chapter offer unique insight into the relationship between stress and leadership for leaders or their team members.

Regressions highlighted no significant relationship between both leadership approaches (SIL and TL) longitudinally for both leaders and their team members, which offers no support for H1. In addition, regressions highlighted no support for H2 as social identity leadership did not add any additional variance beyond transformational leadership to perceived stress, at time point 2, for both leaders and their team members. Significant associations were found for H3 in leaders as social identity add significant variance on top of leadership concerning stress. In addition, there was a significantly negative relationship between stress and social identity leadership over time. Another exciting result found that social support also added significant variance, yet positively related to stress. Job satisfaction

was not significantly negatively related to stress over time, and in addition, it did not explain any additional variance. There was partial support for H4 as differences between leaders and team members were found. Pairwise comparisons indicated that stress levels of both leaders and team members reduced from time point 1 to time point 2. However, all other comparisons were not significant over time and between leaders and followers.

The current chapter adds three contributions to the thesis and the broader literature of the influence that leadership has on stress for leaders and team members over time. First, social identity leadership was found not to add variance beyond transformational leadership in relation to stress over time. In other words, beyond transformational leadership, perceptions of engagement in identity leadership by leaders failed to explain further the levels of stress reported by both leaders and their team members. However, social identity and social support explained further variance in leadership in relation to stress. Second, this study focussed on stress as the outcome rather than more motivational-related predictors of leadership effectiveness that are typically seen in the literature (van Knippenberg & van Knippenberg, 2005). In addition, this provides an insight into stress as an outcome over time (6 months) for senior executive leaders and their team members in a high-pressure environment. Therefore, adding to the current literature by establishing perceptions of leadership at time point 1 as predictors of stress six months later at time point 2. Lastly, the study contributes valuable data for both leaders and their team members, not just exploring either population's isolation regarding stress (Harms et al., 2017).

Previous research concerning the leadership-stress link has demonstrated that leaders can reduce stress levels in the workplace by engaging in various behaviours that fulfil employees' individual needs (Arnold et al., 2007). For instance, one prominent line of

research has shown that when leaders are seen to be more transformational than those followers, they also tend to have better health and well-being (Nielsen et al., 2008). Nevertheless, at the same time, reviews suggest that we have a limited understanding of the variety of ways in which leaders impact followers' stress (Harms et al., 2017; Skakon et al., 2010). The chapter's findings indicate there was no significant relationship between stress and leadership overtime for team members. However, as previously suggested, there is still a limited understanding of the variety of ways leaders can affect the stress levels of their team members (Kuoppala et al., 2008). For example, one reason no relationship was found could be that leaders are in those senior positions because they can deal with crises and potential stressors than others (Van Vugt et al., 2008).

Even though team members were subject to being the followers in this study, these people are also senior leaders within their organisation. They have leadership responsibilities, so they could be placed in the same position as their leaders where they can deal with stressors and appraise them better than those lower in the hierarchy (Lazarus, 1999). In addition, leaders and their team members are likely to display higher stress tolerance levels even before they take on a leadership position within the organisation (Mazur, 1985). Both Leadership approaches increased for both leaders and team members from time point 1 to time point 2. Stress reduced over this time, which could indicate that an event in the participants occurred that reduced stress and possibly, in turn, increased perceptions of leadership (Sherman et al., 2012). Multiple studies have highlighted that when stress is reduced or perceived to be low, leadership is viewed as high and that one mediating variable that was not used within this study was the perception of control participants had in their environment (Sapolsky, 2012). More research highlighting the nuance of the relationship of leadership and stress overtime is needed within senior leaders as they may already be able to

appraise their stress levels better than leaders or people lower in the hierarchy. However, this could contradict the notion that leaders are under more stress than followers due to the significant cognitive demands they face in the workplace (Mumford et al., 2007). In other words, as you develop as a leader in an organisation, you could possibly increase your ability to appraise stressful situations due to the past experiences you have encountered that were not appraised and therefore caused the situation to be stressful. In addition, increasing awareness of the sense of control each leader perceives they have in stressful situations could affect their perception of leadership (Sherman et al., 2012).

The results from the current chapter also revealed that social identity leadership did not explain any additional variance beyond transformational leadership in relation to perceived stress for both leaders and team members longitudinally (H2). This contradicts the findings in the previous chapter, as social identity added variance on top of transformational leadership for team members at a single time point. However, this current chapter has found no similar results to endorse these findings. This could be due to the change in method from cross-sectional to longitudinally and the change of participants and the environment they work within. Chapter two was centred around UK bank managers in a large retail bank whereas in this current study participants are from a New Zealand based cooperative. Leadership and stress literature has highlighted the relationship between transformational leadership and stress but fails to highlight the link between social identity leadership (Harms et al., 2017). In terms of transformational leadership, no significant variance was added to the stress, contradicting previous research that for followers, stress will be significantly lower when transformational leadership is perceived to be high (Parveen & Adeinat, 2019).

There is also a lack of studies reporting the relationship between leader stress and transformational leadership to explain this relationship further, so this current study starts to provide us insight that there possibly is no relationship (Harms et al., 2017). Therefore, one possible explanation for social identity leadership not adding any additional variance is that neither leadership approach affected the participants' stress levels over time. This could be that another variable or factor has a stronger relationship with stress over time. In addition, it is possible there could be more individual based factors that allow people to apprise stress as highlighted in the transactional theory of stress (Lazarus & Folkman, 1984). This potentially could be social identity due to the results highlighted significantly added variance on top of both leadership approaches for leaders; as previously stated, social identity has been shown to have a strong relationship with stress due to its ability to buffer stress appraisal (Haslam et al. 2005). Though leadership did not play a vital role in explaining additional variance to stress, it has highlighted a possible factor affecting leaders' stress levels over time, social identity.

Social identity leads to workplace experiences being seen as less problematic for organisational members as individuals and for the organisational unit with which they identify (Haslam & Reicher, 2006b). This explanation highlights the finding supporting H3 as social identity added significant variance on top of leadership in relation to stress for leaders only. This adds to the already strong existence of literature identifying the link between social identity and stress as by having a shared social identity in the workplace, in their work team and the organisation; employees stress levels are negatively associated (Steffens et al., 2016). Most of the current literature has focused on followers or mid-managers who have limited leadership responsibilities, in the workplace, in this relationship compared to the senior leaders used in this current chapter adding a valuable contribution to this area of research (Steffens et al., 2017). In this current study, it is also important to note

that the relationship between social identity and stress was significant, supporting the literature (Hausser et al., 2020). It strongly indicates that social identity can shift the appraisal process of stress from the individual to the group level (Ketturat et al., 2016). As a result, when coping with a stressor, the resources from the group are considered within the individual appraisal process (Haslam et al., 2005). The current research builds upon these findings, possibly highlighting that a shared social identity can influence the appraisal process by providing a common interpretive framework (Haslam & Reicher, 2006a). It feeds into the current thinking on the relationship between stress and social identification. Those who have a strong identity to the organisation and its people use this to buffer against stress (Haslam et al., 2018). In this chapter this was only the case for leaders and not the team members.

However, the results have highlighted that social support, commonly associated with social identity in buffering stress, has a positive effect on stress, leading to the conclusion that leaders who felt higher levels of social support perceived higher levels of stress. This observation goes against the buffering effect of social support on stress (Cohen & Wills, 1985). Notwithstanding, these findings highlight the variability in an individual's appraisal of stressful events, and those particular types of social support may not help reduce perceived stress. With identification being strongly negatively related to perceived stress, it is possible that due to such a strong sense of identity within the group, it could be detrimental to the level of support offered. With such high levels of identity, this could lead to impermeable group boundaries with social competition increasing hostility and conflict with one another (Haslam et al., 2012). In the context of these leaders in this study, there is a high level of social competition between them to perform due to the high level of identity to the organisation, which could lead to conflict rather than support. Positive social identity can lead

to conflict within senior leaders due to high social competition within the group, causing collective resistance (Karelaia & Guillen, 2014). The said organisation in this study is family run with a possibility that senior leaders are also family members. Another possible explanation from the literature is the notion that a shared social identity can also have a negative effect on stress labelled the "social curse" in which the shared sense of "us" can be detrimental to the individual (Wakefield et al., 2019). If these team members strive to achieve for the benefit of the group and their social identity to this group is salient, individuals' self-esteem is more likely to be contingent on the groups' attributes and achievements (Tajfel, 1982). Therefore, social identity could have been detrimental to this group of team members, and therefore stress would not be negatively associated with social identity.

Finally, the results indicate mixed findings regarding H4, that there will be differences between leaders and team members over time as pairwise comparisons for both identity leadership and transformational leadership were not statistically significant. Nevertheless, descriptive statistics highlight an increase in social identity leadership and transformational leadership from time point 1 to time point 2 and that leaders reported higher levels of leadership compared to their team members across both time points. Two possible explanations for no differences between populations are 1. in-group favouritism (Voci, 2010) and 2. Self-preservation theory (Dickerson et al., 2004). Regarding in-group favouritism, members of lower-status groups (team members) are expected to show in-group favouritism to boost their social identity. Therefore, they could have rated the leaders lower than the leaders rated themselves (Ellemers et al., 1999).

Regarding the leaders rating themselves higher in leadership than perceived by team members, when we are subject to social evaluation (being rated on our leadership by our

team), evidence has illustrated we want to increase social standing and protect it to avoid shame. Therefore, the leaders may have rated themselves to avoid this feeling of their social status and power being evaluated or challenged by their followers in this case (Dickerson et al., 2004). No significant pairwise comparisons were found for social support, social identity, job satisfaction or stress. The reasons highlighted before could explain why there were no significant differences between leaders and team members in this study. Further evaluation over time of leaders is needed to understand the differences between both populations as much of the current research has focussed on just followers, yet emerging research in social identity leadership evaluating leaders has provided a starting point (Steffens et al. 2017).

Despite the current findings, the research is not without its limitations and should be acknowledged. Several limitations need to be highlighted; the first is the number of participants, which affected the power of the study. To illustrate, Skinner and Brewer (2002) conducted a similar analysis where 252 participants were sampled at a single time point, and longitudinally research using similar analysis had 141 participants (Steffens et al., 2017). In the present study, there was a total of 126 participants, which may have influenced the results for the leaders (not the team members) due to the low sample size of executives (n = 21). However, the participants were senior executives, meaning there is often not large sample sizes to start with due to organisational structure. Furthermore, their team members were upper management also, which limited the number of participants due to organisational structure. Therefore, future research could take senior leaders from different organisations that work and operate in a similar industry and context to increase participant numbers and increase the validity and reliability of the data.

Secondly, it is worth noting that research that relies on three or more time points could provide even more conclusive findings. Even though the present results did not provide any evidence for causality (leadership stress), this is not to say that team member stress does not impact leader behaviour (van Dierendonck et al., 2004). Future work employing multiple time points might quantify the potentially mutually reinforcing relationship between leadership and stress. Furthermore, to address process issues in more depth, future research should employ designs that include time-series analyses and experimental manipulations and leadership interventions to reduce stress (Kelloway & Barling, 2010) to examine the causal impact of identity leadership on team members' stress levels. Although, the methodology of the present research advanced upon previous cross-sectional investigations. From a methodological perspective, it is also noteworthy that in the present study, we were not able to collect data concerning the participants; age, gender, duration of employment or any other environmental information due to the agreement for data to be collected from these senior leaders everyone must remain completely anonymous. In this regard, future research should explore the differences of the environmental information to go beyond the participants being a leader or team member.

In addition to the methodology and process, the limitations are the method of data gathering and how stress data is collected from participants. One future way of collecting stress data is hair cortisol sampling, which measures the objective stress levels of participants by extracting cortisol (stress hormone) from participants hair (Gow et al., 2010). It provides a valid and reliable way of measuring the objective stress of participants compared to self-reporting stress through questionnaires (Russell et al., 2012). The use of hair cortisol has been built on the foundations of measuring objective stress from other options of extracting blood, urine, and saliva, which only capture stress activity over minutes to hours compared to weeks

and months using hair cortisol (Russell et al., 2012). Therefore, future research examining the stress of leaders in organisations should adopt the use of hair cortisol to measure objective stress compared to self-reported stress. This is the focus of the next chapter in this thesis.

While the findings revealed some associations, they did not allow for examining potential boundary conditions of the leadership and stress relationship. Accordingly, future research should extend the present work by examining a range of factors to moderate the strength of the relationships observed in the present research. These might include the context of organisational change and restructuring (e.g., the imperative to engage in different leadership approaches might be particularly pronounced following significant organisational change (Jimmieson et al., 2004). Future research might also shed light on the potential for the darker side of leadership whereby increased social identity leadership has a less health beneficial, or perhaps even a health detrimental, impact on leaders and their team members. Indeed, evidence of the dark side of transformational leadership shows that types of leader's behaviours, such as ambiguity enhancing, include articulating a vision and displaying high-performance expectations (Diebig et al., 2016). In addition, where followers have high levels of presenteeism may worsen follower stress and sickness (Nielsen & Daniels, 2016). In this regard, it seems entirely possible, for example, that social identity leadership may lead to greater stress in situations where leaders cultivate group norms and ideals that are damaging to health, for example, those that encourage long working hours, unhealthy habits, and lifestyles.

The present study was conducted in New Zealand using leaders and team members from the largest cooperative organisation in the country that had been family-run for decades. Research on the social identity approach to leadership has not systematically examined how

leader identity is impacted by organisational culture (Haslam et al., 2020). It is noteworthy that most research has been conducted in organisations that are not family-run. Family-run businesses offer more robust social capital to employees compared to non-family run businesses, but they often lead to people in organisations grasping to old values that interrupt processes like leadership (Arregle et al., 2007; Podsakoff & Organ, 1986). A family-run organisation could potentially create different identities for leaders compared to a non-family run organisation due to the family being a strong social identity itself (Waldkirch, 2015).

Finally, in future work, it would be worth examining how membership of multiple workgroups, for example, a team, a department, an organisation, and leaders' management of these multiple identities relate to stress, social support, and job satisfaction (Ramarajan, 2014). In line with research showing that the compatibility between different identities has an essential bearing on organisational behaviour, including health and well-being (Brook et al., 2008). In addition, it would be fascinating to investigate whether and how leaders' rhetorical and practical efforts to enhance compatibility between different identities proves essential for team members stress levels (van Dick et al., 2018).

The present research collectively brought together the crucial connections between identity leadership and transformational leadership on the one hand and stress and other social variables on the other. Social identity added significant variance on top of the leadership approaches concerning perceived stress highlighting that identity goes above and beyond leadership in buffering stress appraisal for leaders. This study was one of the first to evaluate senior leaders and their team members over time, evaluating the relationship between leadership and stress. To be more specific, the research first used social identity leadership to examine stress over time in both leaders and followers. This adds a valuable

contribution to the current literature. This chapter has uncovered the detailed nuance of leadership and stress over time in a large organisation for senior executives and their team members, which the literature lacks. Furthermore, the chapter has established using a longitudinal methodology to capture the relationship between stress and leadership as it provides a richer insight into the nuances not captured cross-sectionally. Notwithstanding the contribution to knowledge, there are limitations that could be addressed in future studies. Furthermore, future research in stress now can objectively measure stress by collecting psych-biosocial data through cortisol sampling. This is employed alongside self-reported stress in the next chapter to examine further and establish the relationship between social identity leadership and stress.

CHAPTER 5: "THE BOILER ROOM": THE ASSOCIATION BETWEEN SELF-REPORTED LEADERSHIP AND OBJECTIVE STRESS IN SENIOR LEADERS

5.1 Introduction

Building on the findings of the previous two chapters, this chapter explores the relationship between social identity leadership, self-reported stress, objective stress, and social support within a senior leader population. The previous chapter highlighted no significant associations over time between social identity leadership and stress for leaders. Social identity did not account for any additional variance on top of transformational leadership. However, the previous chapter failed to evaluate stress objectively as self-reported stress was utilised to highlight leaders and followers stress levels. This current chapter will utilise both over time in association with social identity leadership to provide a broader view of the relationship between stress and leadership. Therefore, addressing thesis aims four and five, this chapter will examine the effects of perceived social identity leadership on self-reported and objective stress levels (hair cortisol) of leaders over time and to evaluate if beyond leadership are social identity and social support associated longitudinally with objective stress levels (hair cortisol) in leaders.

Work-related stress costs organisations billions of dollars a year in lost productivity, health care expenses, and stress-related lawsuits (Hassard et al., 2018). While all employees experience work stress, leaders tend to have particularly stressful jobs due to the high levels of demands and responsibilities associated with the leadership position (Hambrick et al., 2005). Stress can be a leading factor to cause leaders to make the wrong choice or decision that could have severe implications on the rest of the organisation (Thompson, 2010). Therefore, an essential yet often overlooked leadership component is preparing leaders to

manage work stress (Lovelace, Manz & Alves, 2007). For effective leadership to arise, it requires an individual to commit cognitive resources to deal with problems and make meaningful choices whilst sustaining awareness of the circumstances that could change the individual's decision-making boundaries (Mumford et al., 2007). These different processes are interrupted by stress, with can cause aggressive behaviour (Sprague et al., 2011) and lower levels of complex cognitive functioning (Arnsten, 1998). Those in leadership positions feeling stressed are also less likely to understand viewpoints from their team's perspective and therefore become more self-focused (Salovey, 1992).

Furthermore, when a leader is engaged in cognitively demanding jobs, it guides the leader to engage in abusive behaviours (Collins & Jackson, 2015). Therefore, a leader becomes more likely to act destructively towards team members (Bardes & Piccolo, 2010) and can often not engage in any positive leadership behaviours (Eubanks & Mumford, 2010). This not only leads to an ineffective leader of followers but a person who is burnout, not satisfied with their job and has reduced job performance (Gilboa et al., 2008). Consequently, the leadership approach a leader utilises impacts their stress levels, which has been shown in transformational leadership (Parveen & Adeinat, 2019). However, strong evidence suggests that utilising a social identity approach to leadership will go above and beyond transformational leadership due to its positive effects on the increasing trust of the leader, job satisfaction and innovative behaviour (van Dick et al., 2018). This was highlighted in chapter two cross-sectionally, but no evidence was found in chapter three over time. Furthermore, social identity theory already has significant links with stress as having a strong sense of belonging to a group, for example, a group of senior leaders, reduces the individual's stress (Haslam et al., 2004).

Research has shown that group memberships, and associated social identities, contribute to positive well-being (Haslam et al., 2018; Jetten et al., 2014). Social identities can make people more resilient, particularly when these group memberships are challenged (Postmes & Jetten, 2006). From a social identity perspective, group membership serves as a psychological resource that can benefit well-being and resilience (Haslam et al., 2018; Scarf et al., 2016). Indeed, research has shown that simply reminding individuals of their group memberships can increase resilience to stress (Jones & Jetten, 2011). However, it is also the case that individuals need to experience a sense of meaningful connection to the group to reap the benefits of that membership: that is, they need to identify with it (Jetten et al., 2014). Researchers have shown that the more significant number of groups an individual identifies with is typically associated with better health and well-being outcomes (Sani et al., 2015). Social identity processes are crucial and can be seen to buffer against stress as social identity alters appraisal processes, increases social support, and increases the effectiveness of social support (Haslam et al., 2009; Haslam et al., 2019). Individuals who identify strongly with a particular group (e.g., within an organisation) are also more likely to experience social support from other group members (Avanzi et al., 2015). In other words, individuals are more likely to offer help to people they perceive as belonging to the in-group, and equally, they are more likely to receive help from others who perceive them as belonging to the same in-group (Levine et al., 2005).

Additionally, having multiple group memberships means one is likely to have access to more sources of social support (Haslam et al., 2008). However, despite the reported benefits of social identification and social support outlined above, stress and coping literature tend to be individualistically focused, omitting the social relationships and groups (Folkman & Moskowitz, 2004). A potential insight is exploring this through the lens of leadership, as a

sense of shared social identity has also been shown to underpin both leadership (Ellemers et al., 2004).

The social identity approach to leadership has attempted to identify how leaders influence a group and create a cohesive and unified environment (Haslam et al., 2020). When this environment of belonging and togetherness is created, members will define the self as characteristic of an in-group (e.g., senior leaders), seeing themselves as not just "I" but as one of "us". Organisational evidence has indicated that a leader who creates a shared social identity enhances follower trust (Giessner & van Knippenberg, 2008), job performance (Zhu et al., 2015) and the perceived effectiveness and charismatic tendencies of the leader (van Knippenberg and van Knippenberg, 2005). Identity leadership comprises of four principles whereby leaders: represent the unique qualities that define the group that they lead (i.e., they need to be "one of us" - prototypical); advance and promote the core interests of the group (i.e., they need to "do it for us" - advancement); bring people together by creating a shared sense of "we" and "us" (i.e., they need to craft a sense of us -entrepreneur); and organise events and activities that give weight to the group's existence (i.e., they need to make us matter - impresarioship) (Steffens et al., 2014a). One area that social identity leadership has yet to explore fully is its relationship with stress for leaders themselves, not just followers, which most leadership and stress research targets (Harms et al., 2017). In addition, when the stress levels of leaders are evaluated, it is most commonly through self-reported means rather than through psychobiological means such as cortisol measurements in hair (Diebig et al., 2016). To further advance the understanding of the relationship of social identity leadership and stress, different methods could be applied to capture more objective stress data of leaders rather than just self-reported stress. Understanding the mechanisms and effects of chronic work stress is an essential first step in developing strategies to protect and promote the health

of employees. While a considerable amount of research has been devoted to working stress, essential gaps in the literature remain regarding the realism of the testing procedure, the type of stressors used in laboratory settings and their effect on the stress response across different systems.

In the context of work, chronic stress has been defined as a response to an imbalance between the resources available to an individual and the physical, psychological, social, and organisational demands (Bakker et al., 2007). Stress can aid and enhance performance when people are subjected to it short-term (Dhabhar, 2018). However, when stress becomes chronic and long term, it is not just performance that is affected but also the health of the individual. Chronic stress is commonly known for its detrimental effects on cognitive functioning, and it may facilitate the onset and progression of cognitive decline (Dong & Csernansky, 2009). However, empirical evidence from population-based studies is scarce and difficult to aggregate. Reasons for this include the wide range of one-dimensional stress assessment measures, i.e., they measure only psychological or physiological stress exposure or response despite stress representing a multidimensional concept (Epel et al., 2018; Weckesser et al., 2019), as well as the unclear associations among individual stress measures (Epel et al., 2018), and varying associations of stress measures with cognitive outcomes (Korten et al., 2017). Furthermore, chronic stress depends strongly on an individual's appraisal or perception of a stressor (Lazarus and Folkman, 1984). It thus is often assessed with subjective measures, such as the Perceived Stress Scale (Cohen et al., 1983). Elevated perceived stress has been repeatedly associated with worse cognitive functioning (Feeney et al., 2018). Therefore, asking leaders to self-report stress still can provide insight into understanding leaders health and performance, but as stated previously, it does not fully

cover the multidimensional nature of stress. One objective method used within the literature to evaluate the stress of leaders over time is using hair cortisol (Diebig et al., 2016).

The psychobiological stress response highly depends on the cognitive appraisal of the demands of the job and the resources available to the employee (Lazarus & Folkman, 1984). Besides triggering a psychological response, stress is known to stimulate the hypothalamic-pituitary-adrenal (HPA) axis and the autonomic nervous system (ANS) to activate the organism's ability to cope with encountered stressors successfully (Marques et al., 2010), e.g., focusing attention and increasing the functioning of the body. Cortisol is secreted via the HPA, activated in response to stressors and has become a central stress marker. Traditional collection through saliva, blood or urine is limited by sensitivity to diurnal cortisol changes, chronic stress, and consumption (Stalder et al., 2017).

The analysis of hair cortisol concentrations (HCC) is a relatively new strategy to measure long-term cumulative cortisol levels, which is increasingly used in psychoneuroendocrinological research instead of salvia, blood, and urine due to their limitations (Stalder et al., 2017). Quantification of longer-term HPA axis activity has been notoriously tricky as traditional cortisol measures in blood, saliva, or urine only capture activity over minutes to hours and are sensitive to numerous confounding variables (Russell et al., 2012). Hair cortisol concentrations (HCCs) might be a potential physiological indicator of work stress exposure. HCC from a 3 cm scalp hair sample can reflect the past three months of cortisol secretion, offering a stable and feasible measure of chronic stress (Gow et al., 2010; Russell et al., 2012). Understandably, there is considerable and growing interest in HCC as an objective biomarker of chronic stress. In recent years, cortisol has become the primary neuroendocrine indicator of stress in scientific literature and has been the most

studied hormonal indicator in the human body (Ganster & Rosen, 2013). The extraction of cortisol from hair displays a general stress level over time and enables us to look at associations between leadership and stress within a prolonged time frame (Diebig et al., 2016).

However, a recent meta-analysis has shown that self-reported stress is unrelated to HCC (Stalder et al., 2017). Two reasons have highlighted this finding; first, many of the reviewed studies did not include samples with high levels of stress exposure (Stalder et al., 2017). Secondly, the meta-analytic review was unspecific about the sources of stress. Thirty-eight studies out of 44 measured the overall experience of stress without distinguishing between work stress, family stress and other sources of stress (van der Meij et al., 2018). Therefore, in this present study, self-reported stress and hair cortisol will be used to measure the overall stress of senior leaders as leaders are exposed to highly stressful situations (Hambrick et al., 2005). This present study advances the literature by expanding the need to apply more innovative and rigorous methods in the organisational literature (Antonakis, Day, & Schyns, 2012).

One main limitation of existing studies is that they rely solely on self-reported stress measures where regularly, participants rate their own perceived stress levels. To address this limitation, this study will present a combination of biological and psychological research traditions to integrate and advance knowledge in the organisational context regarding biological aspects of organisational behaviour (Arvey & Zhang, 2015). Therefore, this study will provide insights on this crucial gap in existing research and examine social identity leadership's relationship with an objective biological measure of leaders' stress, namely hair cortisol and self-reported stress. In addition to this, it is predicted that social identity

leadership will be negatively associated with both self-reported stress and objective stress captured through hair cortisol over time (H1). Furthermore, due to social identity theory, social support and stress being strongly related, it is predicted that social identity and social support will account for and explain added variance on top of social identity leadership and its relationship with both stress measures (H2).

These hypotheses address two further aims of the thesis concerning (1) examining the influence of perceived social identity leadership on self-reported and objective stress levels (hair cortisol) of leaders over time; and (2) evaluating whether beyond leadership are social identity and social support associated longitudinally with objective stress levels (hair cortisol) in leaders.

5.2 Methods

5.2.1 Participants and Design

In total, there were 91 participants consisting of senior leaders (n = 91) at time point 1 (TP1) and a total of 50 participants (n= 50) remaining at time point 2 (TP2) in a blue-chip organisation completed questionnaires. These senior leaders included the chief executive officer and other members of the executive board. Participants of this level in organisational structures have not been explored enough within the literature due to the difficulty of gaining access and permission to their data and consent (Gordon & Yukl, 2004). No data on gender or age was captured due to the sensitive data set. This was agreed with the senior management that signed off on this study being conducted. The demographic data could not be collected due to an agreement with the organisation. The agreement that no data could be traced to any individual or team within the organisation. All participants were given complete

anonymity. A longitudinal within-subject design was adopted with a blue-chip organisation that operates as the largest co-operative in the UK. The design was two-wave longitudinal, capturing data three months apart.

5.2.2 Measures

Participants completed the same questionnaires at both time points three months apart. This provides the study with six-months data as hair cortisol concentrations provide three months' worth of data at each time point. This matches the time scale used in the previous chapter. All measures are valid and reliable, being used consistently in the extant literature, as follows:

Identity Leadership. The Identity Leadership Inventory (Steffens et al., 2014) is a 15-item measure that assesses the four components of identity leadership: (a) Prototypicality (e.g., as a manger I embody what the group stands for); (b) Advancement (e.g., "as a manger I promote the interests of the members in my group"); Entrepreneurship (e.g., "I make people feel as if they are part of the same group"); and (d) Impresarioship (e.g., "as a manager I devise activities that bring the group together"). All items included the words "manager" rather than "leader" to fit with the organisation's norms. Participants were asked to consider each item and rate it on a Likert scale, for example, from 1 (*I do not agree at all*) to 7 (*I agree*). The ILI has been validated across different populations and has been found to have good levels of reliability and validity (van Dick et al., 2018).

Self-reported Stress. The Perceived Stress Scale 14 (PSS-14) measures perceived stress and has shown good reliability and validity (Cohen et al., 1983). The scale includes 14 items scored on a 5-point rating scale ranging from 0 (never) to 4 (very often). The total score

ranged from 0 to 56, which can be obtained by adding the scores of all the items. Higher scoring reflected higher levels of perceived stress.

Social Identity. A single item of social identification was adapted from Postmes, Haslam, and Jans (2013) Single Item Social Identification (SISI) scale. The measure assessed participants' agreement with the statement "I identify with my organisation" (1 = *fully disagree*, 7 = *fully agree*; *M* = 4.58, *SD* = 1.93, range = 1–7). Postmes et al. (2012) found the SISI measure is valid based on convergence, divergence, and test-retest reliability (across three studies) and note good, estimated reliability (r^2 = 0.64-0.76).

Social Support. Social support was assessed using the Multi-Dimensional Scale of Perceived Social Support (Zimet et al., 1988). The MSPSS consists of 12 items; each item is rated on a seven-point Likert scale ranging from 1 = "strongly disagree" to 7 = "strongly agree." The measure provides a subjective assessment of social support from those participants interacts with, specifically their colleagues.

Hair Cortisol. Hair samples were cut close to the scalp from the posterior vertex region of the head to measure participants' chronic cortisol levels. Three-centimetre-long hair strands were analysed to represent one mean stress value. According to the average hair growth rate of 1 cm per month (Wennig, 2000), the hair samples represent the hair cortisol level of the previous three months. This new method for the detection of cortisol in hair has several advantages. Hair cortisol provides a stress-focused window into the past and does not record a single point measure of acute stress (Russell et al., 2012). In addition, it is independent of circadian rhythm and daily variations in the cortisol level (Staufenbiel et al., 2013). Only a tiny amount of hair is needed to provide a sample, and the sampling procedure is non-invasive (Stalder & Kirschbaum, 2012), meaning that the sampling procedure, e.g.,

cutting hair strands near to the scalp, does not cause stress by itself (Russell et al., 2012). By taking hair samples, we eliminated the risk that the sample collection itself impacts the cortisol concentration like it is possible when extracting cortisol from blood. Therefore, hair cortisol is not affected by situational characteristics like a reaction to chronic stress within the sample collection (Stalder & Kirschbaum, 2012).

5.2.3 Procedure

Participants were recruited through Impact International, a world-leading leadership development company that partners with large organisations. The participants were from one of Impact International's largest clients. To recruit participants several meeting s with the client was needed to highlight the impact of the research and how people's data was to be used. A storing working relationship was needed for the client of Impact International to allow permission for the study to be conducted. A clear outline of the research and it objectives were highlights to the client which ultimately lead to them giving permission to data collection and access to the targeted participant population, senior leaders. An agreement was data to be collected in person every three months at the clients quarterly senior leader conferences. Data was gathered three months apart at quarterly leadership meetings attended by all senior management of a said organisation. An information sheet and consent were provided to give an outline of the study and the opportunity for participants to indicate their participation in the research study before attending the conference. This was sent to their work emails via the human resources department. During the conferences, participants were asked to complete a paper version of a questionnaire that included social identity leadership, social identity, social support, and self-reported stress. In addition to the questionnaire, a hair sample of 3cm was taken from each participant that was no more than the diameter of 5mm.

For a hair sample to be taken, participants lined up to have their hair sample taken, were then sat in a comfortable chair, walked through the procedure of taking a hair sample and informed where their hair sample was being transported and how it was going to be used and destroyed. The procedure to take and analyse cortisol in human hair has been well researched and the procedure used in this study was based on these procedures (Sauve et al., 2007; Wood et al., 2021). To take a hair sample first, hair was located near the crown of the head, secondly, hair surface size of roughly 0.5cm was twisted into a strand and had string placed around it to make a sample. Lastly, after double checking the correct amount of hair was tied up in string, the hair was cut with barber scissors at the root of the hair. The sample was then wrapped in tinfoil and sealed with sticky tape. Samples then were placed into a large airtight envelope that was directly sent to the laboratory at Anglia Ruskin University.

For hair cortisol to be tested and extracted from the hair samples a specialist laboratory was needed. Previous research has highlighted using the laboratory at Anglia Ruskin for extracting cortisol from hair samples (Wood et al., 2021). For the research to be conducted a contract was put in place between the researcher and Anglia Ruskin university. A fee per sample was agreed upon. Any samples of hair that did not meet their criteria for cortisol extraction was not charged. Funding for this was provided as part of the PhD stipend from Staffordshire University. Hair samples were analysed using a commercially available immunoassay with chemiluminescence at a laboratory at Anglia Ruskin University. The biochemical procedure used in hair analysis follows the laboratory protocol described in Kirschbaum et al., (2009) was followed. This process was repeated three months later to collect data for a second-time point. All participants had the right to withdraw their consent at any given time.

5.2.4 Analytical Strategy

Data were first examined for outliers and normality to ensure data met the assumptions for parametric testing. Significant outliers with *z* scores greater than two were winsorised (Salkind et al., 2010; Smith, 2014). This is a process in which extreme values are replaced to reduce the influence of outliers on the data. Data analyses was completed in two parts. In part 1, results from TP1 were analysed in two phases, first, Pearson correlations were carried out for all variables, and secondly, multiple hierarchal regressions were run to test H1 and H2. For part 2, five phases were used to test H1 and H2. Initially, to test H1, Pearson correlations were carried out between social identity leadership principles, self-reported stress, cortisol concentrations, social identity and social support at both time point 1 and time point 2 (H1). To further test H1, a three-step lagged regression was utilised in conjunction with a similar analysis of social identity leadership (Steffens et al., 2017) to explain the relationship between social identity leadership and objective stress (cortisol) over time. TP2 cortisol was used as an outcome for this relationship to highlight the predicting variables. The was replicated using TP2 self-reported stress as an outcome. Leaders will be analysed using the global mean scores for identity leadership at part two due to insufficient power size (Faul et al., 2009). Leaders' data at part one has sufficient power size as analysis using G*Power highlighted a minimum of 77 participants are needed for the number of variables being tested; thus analyses included the four principles of identity leadership (Faul et al., 2009).

5.3 Results

Descriptive results

Means standard deviations of variables have been shown in Table 10 to highlight TP1 and TP2. The descriptive statistics highlight the score of each variable used within this chapter.

Table 10: *Means (M) & standard deviations (SD), Left (TP1) (N=91) & Right (TP2) (N=50)*

	Timepoint 1		Timepoint 2	
	M	SD	M	SD
SI	5.34	1.29	5.62	1.41
SS	3.47	0.82	3.59	0.94
STS	2.73	0.71	2.46	0.61
IPRO	5.40	0.71	5.93	0.87
IADV	5.81	0.64	6.04	0.81
IENT	5.43	0.82	5.86	0.87
IIM	5.43	0.79	5.29	1.23
COR	13.51	7.49	12.11	8.13

N = 91; SI = social identity; SS = social support; STS = stress; IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; COR = Cortisol

Part 1 – Time Point 1

Correlational Analyses. Table 11 sets out Pearson's correlations for all variables at TP1. All variables were found to be significantly correlated, providing partial support for . The coefficients range from small to large. The results illustrate the significant negative relationship of self-reported stress and objective stress (cortisol) with social support and social identity. These correlations provide preliminary support for hypothesis one and two; that social identity leadership negatively associates with both self-reported stress and objective stress over time, and social identity theory, social support and stress being strongly related. However, further analysis is needed via multiple hierarchical regression. In addition, it is worth noting the significant negative relationship between perceived stress and objective stress.

Table 11: *Correlations – TP1 – (N=91)*

	SI	SS	STS	IPRO	IADV	IENT	IIM	COR
SI								
SS	.89**							
STS	-81**	-.76**						
IPRO	.74**	.69**	-.78**					
IADV	.75**	.66**	-.77**	.40**				
IENT	.84**	.85**	-.77**	.33**	.85**			
IIM	.76**	.71**	-.71**	.37**	.85**	.70**		
COR	-.39**	-.44**	-.57**	-.38*	-.50**	-.42**	-.51**	

N = 91; SI = social identity; SS = social support; STS = stress; JS = job satisfaction; IPRO = identity prototype; IADV = identity advancing; IENT = identity entrepreneur; IIM = identity impresarioship; COR = Cortisol

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

Regression Analyses - Self-reported Stress. Results from the multiple hierarchical regression to predict self-reported stress from social identity leadership, social identity and social support indicated that social identity leadership accounted for 55% (r^2= .55) variance in stress, the model was significant (F (4, 86) = 25.89, p<0.01). Adding social identity and social support principles at step 2 added an additional 22% (r^2 = .22) variance in stress, the regression was significant (F (2, 84) = 47.98, p<0.01). As predicted, social identity leadership was negatively related to self-reported stress (H1). In addition, the results highlight that social identity and social support added variance on top of social identity leadership in relation to self-reported stress levels (H2). All ANOVA models were significant, step 1 (F (4, 86) = 25.89, p<0.01) and step 2 (F (6, 84), 47.98, p<0.01). At step 1, the betas indicated that: social identity leadership principles; advancing (β = -0.50, p<0.01) and entrepreneurship (β = -0.27, p<0.01) were negatively significantly related to self-reported stress. At step 2, identity advancement (β = -0.06, p<0.01), social identity (β = -0.27, p<0.01) and social support (β = -0.41, p<0.01) were negatively significantly related to self-reported stress. See table 12 for regression results.

Regression Analyses - Objective Stress. Results from the multiple hierarchical regression to predict objective stress from social identity leadership, social identity and social support indicated that social identity leadership accounted for 19% (r^2= .19) variance in objective stress, the model was significant (F (4, 86) = 5.013, p < 0.01). Adding social identity and social support principles at step 2 added an additional 16% (r^2 = .16) variance in stress, the regression was significant (F (2, 84) = 7.61, p<0.01). These results support hypothesis one but not hypothesis two. As predicted, social identity leadership was negatively related to objective stress (H1). In addition, the results highlight that social identity and social support failed to add variance on top of social identity leadership in relation to self-reported stress levels (H2). All ANOVA models were significant, step 1 (F (4, 86) = 5.013, p<0.01) and step 2 (F (6, 84), 7.61, p<0.01). At step 2, the betas indicated that: social identity leadership principal advancement (β = -0.37, p<0.05) was negatively significantly related to objective stress (cortisol). At step 2, social support (β = -0.40, p<0.01) was negatively significantly related to self-reported stress. See table 12 for regression results.

In summary, the regressions highlight that social identity leadership was significantly negatively related to self- reported and objective stress (supporting H1). Social identity and social support were negatively related and added significant variance on top of social identity leadership in relation to self-reported stress but not for objective stress (partially supporting H2). In addition, the regressions highlighted differences between self-reported stress and objective stress as social identity was only significantly related to self-reported stress at step 2. Further regressions highlight the relationships over time rather than cross-sectionally. See table 13 for regression results.

Table 12: *Regression analyses for SIL, SI & SS predicting self-reported stress (TP1)*

	Step 1					Step 2				
Variable	*b*	95% CIs	*SE*	ß	*t*	*b*	95% CIs	*SE*	ß	*t*
IPRO	-.06	-.34, .22	.14	-.06	-0.44	-.07	–.27, .14	.10	-.06	-0.63
IADV	-.57	-.83, -.31	.13	-.50	-4.37**	-.36	-.55, -.17	.10	-.31	-3.71**
IENT	-.25	-.48, -.03	.11	-.27	-2.27*	-.05	-.22, .11	.08	-.06	-0.64
IIM	.01	-.26, .28	.14	.01	0.06	.09	-.11, .28	.10	.09	0.88
SI						-.14	–.23, -.04	.05	-.27	-2.95**
SS						-.27	–.39, -.16	.06	-.41	-4.75**
R^2					.55** (ΔR^2=.53)					.77** (ΔR^2=.76)

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

Table 13: *Regression analyses for SIL, SI & SS predicting objective stress (cortisol)(TP1)*

	Step 1					Step 2				
Variable	*b*	95% CIs	*SE*	ß	*t*	*b*	95% CIs	*SE*	ß	*t*
IPRO	2.22	–1.43, 5.87	1.84	.21	1.21	2.04	–1.34, 5.42	1.70	.19	1.20
IADV	-4.05	-7.42, -.68	1.70	-.37	-2.39**	-2.27	-5.42, .87	1.58	-.21	-1.44
IENT	-1.36	-4.24, 1.52	1.45	-.15	-0.94	.32	-2.39, 3.03	1.36	.04	0.24
IIM	-1.34	-4.82, 2.14	1.75	-.14	-0.77	-.75	-3.92, 2.42	1.59	-.08	-0.47
SI						-.80	–2.31, .71	.76	-.16	-1.05
SS						-2.57	–4.44, -.70	.94	-.40	-2.74**
R^2					.19** (ΔR^2=.15)					.35 (ΔR^2=.31)

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

Part 2

Part 1 analysed data collected solely at TP1 to begin establishing the hypotheses' results. Part 2 highlights the results of the 50 leaders that reconnected with the study and repeated the same measures at TP2.

Correlational Analyses. Table 14 shows Pearson's correlations for all variable relationships between TP1 (vertical) and TP2 (horizontal). All variables were significantly correlated apart from to relationships (SIL & SI; SIL & SS). Social identity leadership was negatively related to self-reported stress and objective stress (cortisol), supporting H1. In addition, perceived stress and objective stress were negatively related again but correlate over time in this instance. Again, the results illustrate the significant negative relationship between self-reported stress and objective stress (cortisol) with social support and social identity. These correlations provide preliminary support for H1 and H2, but further analysis is needed via lagged regressions.

Table 14: *Correlations – TP1(vertical) vs TP2 (horizontal) – (N=50)*

	SI	SS	STS	SIL
SI				
SS	.30*			
STS	-.52**	-.58**		
SIL	.23	.27	-.45**	
COR	-.37**	-.42**	-.53**	-.46**

N = 50; SI = social identity; SS = social support; STS = stress; JS = job satisfaction; SIL= social identity leadership; COR = Cortisol
* p< .05, ** p< .01

Regression Analyses – Self-report Stress Over Time. Results from the multiple hierarchical regression to predict self-reported stress (TP2) from social identity leadership (TP1), social identity (TP1) and social support (TP1) indicated that social identity leadership accounted for 38% (r^2= .38) variance in stress and the model was significant (F (1, 48) = 29.631, p < 0.01) at step one thus supporting H1. Adding social identity and social support principles at step 2 added an additional 4% (r^2 = .42) variance in stress, the regression was not significant (F (2, 46) = 1.33, p>0.05). As predicted, social identity leadership was negatively related to self-reported stress and added significant variance (H1). In addition, the results highlight that social identity and social support did not add variance on top of social

identity leadership in relation to self-reported stress levels (H2). All ANOVA models were significant, step 1 (F (1, 48) = 29.631, p<0.01) and step 2 (F (3, 46), 10.899, p<0.01). At step 2, the betas indicated that: social identity leadership (β = -0.62, p<0.01) was significantly negatively related to self-reported stress. See Table 15 for regression results.

Regression Analyses - Objective Stress Over Time. Results from the multiple hierarchical regression to predict objective stress (TP2) from social identity leadership (TP1), social identity (TP1) and social support (TP1) indicated that social identity leadership accounted for 25% (r^2= .25) variance in stress and the model was significant (F (1, 48) = 16.176, p < 0.01) at step one thus supporting H1. Adding social identity and social support principles at step 2 added an additional 5% (r^2 = .30) variance in stress, the regression was not significant (F (2, 46) = 1.536, p>0.05). As predicted, social identity leadership was negatively related to self-reported stress and added significant variance (H1). In addition, the results highlight that social identity and social support did not add variance on top of social identity leadership concerning self-reported stress levels (H2). All ANOVA models were significant, step 1 (F (1, 48) = 16.176, p<0.01) and step 2 (F (3, 46), 6.536, p<0.01). At step 2, the betas indicated that: social identity leadership (β = -0.53, p<0.05) was significantly negatively related to self-reported stress. See Table 16 for regression results.

Table 15: Regression analyses for SIL, SI & SS (TP1) predicting self-reported stress (TP2)

	Step 1					Step 2				
Variable	*b*	95% CIs	*SE*	ß	*t*	*b*	95% CIs	*SE*	ß	*t*
SIL	-.57	–.98, -.36	.11	-.62	-5.44***	-.52	–.80, -.06	.23	-.56	-2.29*
SI						.09	–.19, .37	.14	-.19	0.67
SS						-.28	–.64, .08	.18	-.44	-1.58
R^2					.38*** (ΔR^2=.37)					.42*** (ΔR^2=.38)

Note. * *p* < .05, ** *p* < .01, ***p<0.001.

Table 16: Regression analyses for SIL, SI & SS (TP1) predicting objective stress (TP2)

	Step 1					Step 2				
Variable	*b*	95% CIs	*SE*	ß	*t*	*b*	95% CIs	*SE*	ß	*t*
SIL	-4.98	–7.47, -2.49	1.24	-.50	-4.02**	-4.27	–9.27, -.02	2.49	-.49	-2.02*
SI						1.43	–1.55, 4.40	1.48	.33	-0.96
SS						-1.87	–5.78, 2.05	1.94	-.30	-0.96
R^2					.25*** (ΔR^2=.24)					.30** (ΔR^2=.25)

Note. * *p* < .05, ** *p* < .01, ***p<0.001.

Changes from TP1 to TP2

Identity Leadership. A paired samples *t*-test (TP1 vs TP2) indicated a significant difference in social identity leadership at TP1 (M=5.54, SD=0.65) and TP2 (M=5.81, SD=0.88); t (49) = -2.17, p<0.05. Social identity leadership was significantly higher at TP2 compared to TP1.

Social Identity and Social Support. A one way (TP1 vs TP2) within subjects' MANOVA indicated no significant difference in social identity, F (1, 48) = 2.240, p>0.05,

and social support F (1, 48) = 0.657, p>0.05, over time. Leaders' perceptions of social identity and social support did not significantly change between time points.

Stress and Cortisol. A one way (TP1 vs TP2) within subjects' MANOVA indicated a significant difference in self-reported stress, F (1, 48) = 12.443, p<0.01, and cortisol measurements F (1, 48) = 10.285, p<0.01, over time. Leaders had significantly lower self-reported stress and objective stress (cortisol) at TP2 than TP1.

In summary, leaders' perception of their social identity leadership significantly increased over time. In addition, leaders self-reported stress and objective stress levels (cortisol) lowered significantly over time. However, no significant difference was found for social identity or social support between TP1 and TP2 for the leaders.

5.4 Discussion

The current chapter builds upon the previous findings of the thesis and expands the literature in several ways; accessing the top leaders within a large organisation to examine the use of objective measures of stress and how this is influenced by leaders' perception of their own leadership. The purpose of this study was to examine the effects of perceived social identity leadership on self-reported and objective stress levels (hair cortisol) of leaders over time. In addition, another aim was to highlight if beyond leadership are social identity and social support associated longitudinally with objective stress levels (hair cortisol) in leaders. The results support the concept that leader behaviours are linked to leaders' hair cortisol levels and perceived stress levels. The cross-sectional design of part one of the results highlighted one of the social identity leadership principles as negatively associated with self-reported stress and added significant variance. Specifically, identity advancement was the single principle of social identity leadership that supported H1. In addition, there was a negative relationship between identity advancement and objective stress which supported H1. Social identity provided significant variance is association with both self-reported stress and objective stress. Extending beyond leadership, social identity and social support added significant variance on top of leadership principles for self-reported stress. There was also a significant negative relationship between these variables and self-reported stress, thus supporting H2. However, only social support added significant variance on top of leadership and was significantly negatively associated with objective stress, partially supporting H2.

Part two of the results used a longitudinal design to highlight if social identity leadership, social identity and social support at the first time point were predictors of stress (self-reported and objective) over time. Social identity leadership was highlighted as a

predictor for self-reported stress over time as it significantly added variance and was significantly negatively associated with self-reported stress thus supporting H1. This mirrored the leadership and objective stress results as leadership added significant variance and was significantly negatively associated with objective stress. There was no support for H2 as neither social identity nor social support had any significant relationship with self-reported stress or objective stress over time.

The findings extend past research and add contributions to the literature by linking an objective measure of stress with a psychological aspect of organisational behaviour, i.e., leadership behaviour. The results were based on leaders reflecting on their own leadership to others within their organisation. Furthermore, the study answered the call for more interdisciplinary research in organisational behaviour (Antonakis et al., 2012; Arvey & Zhang, 2015). Therefore, it contributes to better integrating and advancing knowledge for a more detailed understanding of critical organisational outcomes regarding stress. In addition to that, the study strengthened the quality of data by combining perceived leader ratings with an objective measure of work stress (Hoffman et al., 2011). Lastly, this chapter contributes to the literature by emphasising the relationship between social identity leadership and objective stress measures in senior leaders.

These findings have important theoretical and partial implications for analysing the relationship between social identity leadership and stress. The use of an objective stress marker is built upon the premise that psychological stressors activate the hypothalamic-pituitary-adrenocortical (HPA) axis and, therefore, increase cortisol levels (Dickerson & Kemeny, 2004). This highlights the importance of the HPA system for determining the stress levels of the senior leaders within this study (Nixon et al., 2011). Social identity leadership

was significantly related to both perceived and objective stress over time highlighting the possibility of a link between both measures of stress. Even with the addition of social identity and social support, social identity leadership was the only significant variable associated with both stress measures. This possibly highlighted that when senior leaders perceive themselves to be highly self-rated social identity leaders this has then has a negative effect on their stress levels, cognitively and physiologically. Previous research has mostly focused on how followers rate their leader's leadership and its relationship with a leader's stress levels rather than the method used in this study where leaders rate themselves on their leadership (Harms et al, 2017; Arnold, 2017). Therefore, further exploration into how senior leaders perceive their leadership and its effect on their stress levels is needed. In other words, if a senior leader believes that they are a social identity leader and use its principles, then in turn their possibly could be a negative relationship with stress. Although leadership was highlighted over time as the sole significant factor, perceived environmental factors were highlighted in part one of the study,

Research has revealed that environmental stressors at work were associated with physical health, demonstrating that the perception of the environment that these leaders work and operate in is crucial for their stress levels (Hershcovis & Barling, 2010). One consideration to highlight in the connection between the environment and HPA activation is that social support is an essential variable in the context of stress, especially with relation to the HPA activity (Hostinar et al., 2014). Part 1 of the study highlighted that social support added significant variance in leadership concerning objective stress. In part 2 social support was the only variable significantly negatively related to objective stress over time. This was not the case for the relationship between social support and perceived stress over time. What this could possibly highlight is that the perception of the support we receive from our

colleagues has a more significant effect on our objective stress, our physiological state compared to our cognitive perception of how stressed we feel we are. Indicates the possibility that social support sub-consciously effects our objective stress levels.

While social support is a measure previously linked to lower cortisol stress responses (e.g., Heinrichs et al., 2003), there has been a lack of evidence of hair cortisol concentrations (HCCs) being related to perceived social support measured via questionnaire (Stalder et al., 2017). The relationship between HCCs and perceived stress has been investigated repeatedly, with no consistent correlation found between these measures (Stalder et al., 2017). The perceived stress scale (PSS) score is a general stress measure; it might not capture differences in specific situations, such as the difference between high-risk and low-risk groups among healthcare workers. Moreover, PSS is not designed to measure stress retrospectively in periods longer than a few weeks (Cohen et al., 1983); therefore, it is understandable that it does not reflect HCCs that correspond to a different period.

Pointing out the organisational relevance of hair cortisol as a measure of stress, it can be assumed that in contemporary scientific research, chronic stress is related to poor health (Miller et al., 2007). In a vast majority of studies, associations between stress (indicated by cortisol), bad medical conditions (e.g., cardiovascular disease and obesity), and mental disorders (such as mood or anxiety disorders) have been observed (Ganster & Rosen, 2013; Miller et al., 2007; Russell et al., 2012; Staufenbiel et al., 2013; Wosu et al., 2013). Furthermore, the stress hormone cortisol is also involved in learning, memory, and emotion processes (Miller et al., 2007) and may affect optimal functioning within these domains. However, the relation between stress and performance yields a mixed pattern of results. This

relation depends on the temporal character of the stress variable (short-term vs chronic stress) and the measurement method (self-report vs objective measure).

On the one hand, results from the management literature support the view that self-reported stress may enhance performance, building on the assumption that individuals experiencing stress may focus their attention on critical tasks (Hunter & Thatcher, 2007). On the other hand, studies have revealed that feelings of stress may diminish job performance due to the impairment of core motivational aspects of successful performance (Motowidlo et al., 1986; Stewart & Barling, 2007). In addition, several attempts within stress literature have been made to examine the relationship between cortisol and different performance indicators. Firstly, recent studies have revealed significant associations between stress and decision making. Nevertheless, if stress increases or decreases decision-making, quality de-pends on specific tasks, situations, or personal factors (Starcke & Brand, 2012). For example, decisions under uncertainty that depend on strict strategy use and feedback processing are altered, employing stress (Starcke & Brand, 2012).

In contrast, decisions that require risk-taking and automatic processing may be improved (Shields et al., 2016). What this highlights is the importance of expanding the literature and research of HCC's in organisations. If reducing the stress levels of employees enhances performance has overwhelming positive effects on people's health, physically and mentally then further exploration into the mechanisms and causes of stress need to be addressed. This study highlights social identity leadership as a possible concept that could have a positive influence on senior leaders in organisations due to its negative relationship with stress over time. Future research should address these issues and analyse the relation between general cortisol levels and performance in organisations depending on the tasks, the

situation, the person, and the behaviour of leaders. A combination of self-reported and objective measures of stress is necessary to paint a clear picture of the relation between leadership and stress.

Although specific strengths characterise our study, there are inherent limitations associated with the design of this study. First, the cross-sectional character of part 1 analysis limits the ability to draw causal inferences. Second, our design poses potential threats to two of the three classical conditions of causality that refer to the temporal order of predictor and criterion, reliable covariation between predictor and criterion, and elimination of other causes than the one measured (Shadish et al., 2002). Concerning the temporal order of predictor and criterion and due to the retrospective manner of our outcome variable (i.e., hair cortisol representing general cortisol level over the last three months), we cannot assure those leader behaviours occurred temporarily before the stress measurement. Nevertheless, we assume that leader behaviours are constant over time and constantly related to cortisol levels. Thus, we cannot infer the causative directionality between predictor and criteria observed, i.e., rule out the possibility that relations exist vice versa to proposed relations among study variables. Third, we assumed that leader behaviours influence followers' levels of stress. However, it is possible that individuals experiencing low levels of stress are more actively included in working tasks by their leaders. As a result, the leader interacts in a transactional manner with them because the leader perceives followers to be more capable of the motivating aspects of transactional leadership. Hence, stress-free followers perceive their leaders as highly transactional.

Given the vast theoretical and empirical knowledge on independently observed effects in the context of leader behaviours with follower outcomes (Judge & Piccolo, 2004), we

believe that the causal direction as depicted in our model is more likely. Still, we cannot rule out all alternative temporal explanations without a repeated-measures longitudinal design or a quasi-experimental study (Antonakis et al., 2010; Shadish et al., 2002). Moreover, simultaneity may pose a threat of validity to our results. Simultaneity describes those two variables simultaneously causing each other (Antonakis et al., 2010) in that leader behaviours would vary as a function of followers' stress level.

The use of hair cortisol as an objective marker of stress in organisational research is an innovative approach. However, the validity of this novel method is still actively under debate (Staufenbiel et al., 2013). As hair cortisol is new in organisational science, essential aspects of the validity of this stress measure need further evaluation. There is a balance between studies supporting a direct fit between objective and subjective stress criteria and studies that do not support this association (Staufenbiel et al., 2013). Compared with traditional extraction methods of cortisol (i.e., blood, serum, saliva), Stalder and Kirschbaum (2012) revealed significant positive associations between hair cortisol and accumulated salivary cortisol levels.

In summary, more research is needed to provide reliable statements on the psychoendocrine covariance in this nascent research area. However, studies highlighting the validity of hair cortisol relying on animal studies have shown a connection between highly stressful conditions and hair cortisol changes (Stalder & Kirschbaum, 2012). Likewise, Sharpley et al., (2012) observed a direct link between the cortisol level in hair (fur) and the animal’s experience of stress. Further, studies using human samples have shown correlations between high chronic stress exposure and hair cortisol (Staufenbiel et al., 2013) in high-stress conditions like demanding working environments (e.g., shift work or unemployment), for

people who have experienced profound life events (e.g., death of a close relative or severe illness), for those experiencing chronic pain, and in the context of sport. Therefore, we can conclude that "in a broad area of research, recent and/or ongoing stress generally seems to be associated with increased hair cortisol" (Staufenbiel et al., 2013, p. 1225).

This study contributes to the literature by combining research on stress-related correlates of leader behaviours with innovative measures of stress. Leaders' perception of their own leadership plays an essential role in their relationship with stress both objectively and self-rated. This study is set apart from recent studies that solely focus on subjective indicators of stress and extends this research tradition by applying an objective biological measure to the assessment of stress. As cortisol is an essential biomarker of stress in the clinical research area, there is a need to implement objective stress markers in management research. However, this research stream is still in the early phases, and results should be interpreted with caution. Hence, more replications and further tests are required to establish hair cortisol as a commonly accepted measure of general stress in the leadership literature.

CHAPTER 6: GENERAL DISCUSSION

6.1 Summary of Findings

The purpose of this thesis was to investigate the relationship between social identity leadership and stress from both the perspectives of leaders and followers (team members). The specific objectives were to: (i) examine the effects of leaders' and team members perceived social identity leadership and transformational leadership on self-reported stress cross-sectionally (Chapter two) and longitudinally (Chapter three); (ii) explore whether social identity leadership adds variance in leaders and followers stress levels beyond transformational leadership cross-sectionally (Chapter two) and longitudinally (Chapter three); (iii) investigate whether beyond leadership are social identity, social support and job satisfaction associated with self-reported stress cross-sectionally (Chapter two) and longitudinally (Chapter three); (iv) examine the effects of perceived social identity leadership on self-reported and objective stress levels (hair cortisol) of leaders over time (Chapter four); and (v) investigate whether beyond leadership are social identity and social support associated longitudinally with objective stress levels (hair cortisol) in leaders (Chapter four).

Chapter two examined the influence of social identity leadership, transformational leadership concerning social factors, social identity, social support, and job satisfaction on the self-reported stress of leaders (n = 204) and their team members (n = 390). The focus was within a sizeable blue-chip organisation in the banking sector using data from bank managers and their team members. Results indicated transformational leadership had a significant negative relationship with stress for leaders. In addition to transformational leadership, social identity, social support, and job satisfaction added significant variance, but social identity leadership did not. For team members, however, social identity leadership did add significant

variance in addition to transformational leadership. In addition, there was a significant negative relationship between stress and transformational leadership, social identity leadership, social identity, social support but not job satisfaction. There were also differences between leaders and their team members found. Compared to leaders, team members reported higher social identity leadership, transformational leadership, and social support, alongside lower stress levels. No significant differences were found between leaders and their team members for social identity or job satisfaction.

In chapter three, the aim was to examine the same relationships between leadership and stress longitudinally. The chapter adopted a longitudinal design in a large farming cooperative based in a different culture to Chapter 2. Data were collected in New Zealand, targeting the most senior leaders in the organisation and their team members who also had formal leadership responsibilities within the business. The results found evidence in support of the "social cure" (see Haslam et al., 2018) literature as social identity added significant variance in addition to both leadership approaches and was significantly negatively associated with stress in leaders. Leadership did not add any significant variance for both leaders and their team members. Unexpectedly, social support also added significant variance in addition to leadership and was positively related to stress within the leader population. No significant differences were found between leaders and team members over time.

Chapter four expanded on the methodology used in chapter three by measuring self-reported and objective stress via hair cortisol over time. In this chapter, participants were senior leaders within a large UK based cooperative organisation, including their chief executive and executive team. The study asked leaders to reflect on their own leadership behaviour from a social identity perspective and examined the associations with their own

self-reported and objective stress over time. Part 1 of the results, using the larger cross-sectional sample indicated that identity advancement had a significant negative relationship with self-reported stress but not objective stress (n = 91). In addition, social identity and social support were significantly negatively related to self-reported stress for these leaders. Social identity and social support explained significant variance on top of social identity leadership in relation to self-reported stress. However, regarding objective stress, results indicated that social support added significant variance on top of leadership principles and was negatively related. Social identity did not add any significant variance in this case nor any significant relationship with objective stress.

Part 2 adopted a longitudinal design (n = 50) to highlight the influence of the same relationships and variables over time. Longitudinally, there was a significant negative relationship between social identity leadership and self-reported stress. Social identity and social support explained no further variance and were not significantly related to self-reported stress. The same results were found for the relationship between social identity leadership and objective stress, a significant negative relationship. Social identity and social support added no further variance and were not significantly related to objective stress. Overall, the findings generated in this research programme have valuable theoretical and applied implications, which are discussed in detail below.

In summary, the findings provide mixed results in relation to the hypotheses of the thesis. There is both consistent and inconsistent findings across the empirical chapters. Although the results in each chapter varied, the thesis contributes to the scientific method of researching social identity leadership and stress. The different methods applied to each chapter followed calls from the literature extending our understanding of the relationship

stress has with leadership, social identity, and social support. All leaders in the studies were senior leaders in their organisation, going beyond the large sample of middle managers in the literature examining leadership and stress (Harm et al., 2017). By default, looking at senior leaders, there will be a smaller sample size as highlighted in this thesis strengths and limitations section. However, by examining the top leaders in large organisations, we have the opportunity for a more comprehensive insight into how leadership and stress are related at the highest, and arguably most demanding, level.

The thesis has provided several valuable contributions to extant literature; first, social identity leadership, transformational leadership and stress are all examined together in the same studies (chapters two and three). Second, the thesis findings indicated that social identity leadership explained additional variance beyond transformational leadership in relation to stress for team members cross-sectionally. Over time, social identity explained additional variance, beyond both leadership approaches, in relation to stress. Expanding upon this, third, data were collected from authentically senior leaders in large cross-cultural organisations in the UK and New Zealand. These leaders ranged from bank managers (chapter two) to senior executives including the chief executive (chapter three and four). In addition to examining leaders, the thesis contributes to knowledge by examining their immediate team members to compare the differences between each population. Further, two of the studies were conducted using a longitudinal design to examine these populations over a six-month period. Lastly, an objective measure of stress was used to underpin the physiological responses leaders have to stress in relation to social identity leadership. Overall, the findings generated in this research programme have valuable theoretical and applied implications, which are discussed in detail below.

6.2. Theoretical Implications

6.2.1 The Associations between Social Identity Leadership / Transformational Leadership and Stress

The first aim of the thesis was to investigate the influence of transformational leadership and social identity leadership concerning stress for leaders and their team members cross-sectionally and over time. Transformational leadership is currently the most prevalent leadership approach used to understand leadership effectiveness in organisations (Mhatre & Riggio, 2014). Transformational leadership as an approach allows leaders to display types of behaviours that include raising team members to a higher level of achievement, enabling them to go above and beyond their interests for collective welfare and developing their ability to approach problems in a different way (Bass, 1985). These behaviours imply that the motivational basis of the approach is a process of changing the way followers view themselves (Lord & Brown, 2004). In the current thesis, the influence of transformational leadership on stress supports previous literature investigating this relationship by finding that transformational leadership is generally negatively associated with stress (Arnold, 2017). However, it answers the call for more research to understand this relationship through the lens of both leaders and team members (Harms et al., 2017).

Social identity leadership has attracted growing attention within the leadership research, with 31 social identity leadership research articles published in top ten tier journals between 2000 and 2012 and even more since (Dinh et al., 2014). However, there has been minimal research into the relationships between social identity leadership and stress to date. This thesis provides new insights into the relationship due to using both leaders and followers and examining this in cross-cultural populations by broadly finding that social identity

leadership negatively associated with stress. Findings within this thesis highlight the critical roles both leadership approaches have in relation to stress for both the leader and the follower.

It is important to highlight differences and similarities between transformational leadership and social identity leadership. Regarding conceptual differences, transformational leadership focuses on developing followers to perform leadership roles (Avolio, 1999). Social identity leadership is concerned with how leadership is inextricably connected to group processes where leaders develop, manage, champion, and advance a shared group identity with followers (Slater & Barker, 2019). The thesis expands our understanding of the two leadership approaches in relation to stress expressly. The chapters evidence associations between both transformational leadership and social identity leadership to stress in leaders and followers, with some differences worth noting.

Despite a tremendous amount of academic research interest in transformational leadership (Bass & Bass, 2008) and stress (Sulsky & Smith, 2005), there is a paucity of research investigating the notion that enacting certain leadership behaviours might be stressful. A substantial amount of research has been devoted to discovering effective leader behaviours. Nevertheless, little research is investigating whether these leadership behaviours might be stressful for leaders to enact, not just a follower's reaction (Harms et al., 2017). Chapters two and three in the present thesis provide mixed evidence for the negative relationship between transformational leadership and stress. Chapter two adds to the transformational leadership and stress relationship literature for both leaders and team members. Focusing specifically on leaders, the chapter provided evidence that leaders who perceive themselves as transformative leaders had a negative relationship with stress. This is

a contribution to the extant literature as there is limited research on the influence of transformational leadership on the stress within the leader population. Most research focuses on the follower/employees who are asked to rate their leader's engagement in various behaviours (Harms et al, 2017).

Drawing from cognitive resource theory, it would be anticipated that leaders' high levels of transformational leadership would be associated with stress negatively because, in a crisis, a leader will often find that more directive communication patterns are more effective at organising the group when there is no time to weigh large numbers of options and solicit feedback (Gibson et al., 1993). It is reasonable to assume that these behaviours could become internalised as the individual looks at their behaviours and defines themselves in terms of how they have acted (Roberts et al., 2003). This process unfolds as individuals interpret their actions based on the stimuli in their environment, and over time, individuals begin to articulate a role identity associated with their environment (Wood & Roberts, 2006). Furthermore, leaders who adopt a transformative approach to leadership could possibly have a negative relationship with stress because their job demands are perceived as less due to the inspiration and support of team members who reduce the job demands (Bass & Bass, 2008). It is also possible that leaders who reduce ambiguity, provide guidance for efforts, encourage team members to pursue new avenues for growth and development would allow the leader to have a negative relationship with stress (Diebig et al., 2016). Consequently, the degree to which a transformative leader can feel reassured by their team's outlook and use of resources could influence their perception of the leadership they offer and its relationship with stress (Bono & Ilies, 2006).

However, no relationship between transformational leadership and stress in leaders was found in chapter three. Several possibilities for this extend the literature as well. Firstly, chapter three's methodology was different from chapter two due to the adoption of a longitudinal design compared to a cross-sectional one. This could possibly be due to leaders adopting a transformative leadership approach will undoubtedly face differing levels of job demands and hard decisions over time that could fluctuate the amount of influence leadership has on their own stress levels (Mumford et al., 2007). It is also worth highlighting that although both participants in chapters two and three were leaders in their organisation, the leaders were the senior executive team for a large New Zealand-based co-operative in chapter three. The current literature may provide an answer for this: when leaders ascend to more powerful positions; they face ever-increasing demands on cognitive resources, resulting in higher stress levels (Sherman et al., 2012). Therefore, a possible reason there was no relationship found between transformational leadership and stress over time because the population was a lot more senior than that of chapter two, where the demands may have been less, and those leaders could appraise job demands more effectively as there were fewer demands to deal with. Through the lens of stress appraisal theory senior leaders may potentially have to deal with a lot more stressors and only have a limited cognitive capacity to find all stressor threatening to themselves (Lazarus & Folkman, 1984). The higher the position the more demands from the environment that the leaders operate and lead within and the less likelihood to cope with all stressors seen as threatening. Collectively this thesis provides only cross-sectional evidence for leaders and the influence of their perceived transformational leadership on stress which encourages further research on this relationship to be examined longitudinally.

Over 54 studies have explored the relationship between transformational leadership and perceived stress or related constructs for followers (Harms et al., 2017). Higher levels of transformational leadership are associated with followers reporting lower stress and burnout, while higher levels of abusive supervision are associated with higher levels of follower stress (Harms et al., 2017). As the data on leader stress, it may be that an employee experiencing high levels of stress is more likely to perceive or report abusive supervision than abusive supervision driving stress (Wang et al., 2015). Perhaps even more importantly, to the degree that leaders can provide emotional support and material support, the resources associated with closer leader-follower bonds should also act to reduce subordinate stress and burnout (Lyons & Schneider, 2009). These findings align with previous studies that reported differential influences of leader behaviours on stress (Franke & Felfe, 2011; Schyns & Schilling, 2013).

The current thesis further contributes and extends the knowledge in the relationship between leaders and followers regarding transformational leadership and stress. Chapter two provided a valuable insight into this relationship as transformational leadership accounted for 61% of the variance in relation to stress in team members. This potentially highlights that close bonds between team members and transformative leaders may be related to reduced anxiety because individuals will have a "secure base" when trouble emerges (Harms et al., 2016). Indeed, meta-analytic evidence shows that leader support is an essential antecedent of stress and burnout feelings (Halbesleben, 2006). Thus, the thesis would expect transformational leadership variables associated with closer bonds to be associated with a negative relationship with stress, as it did in chapter two. Potentially, transformational leadership helps create some sense of "we" and "us" due to the team members' perception of being supported as a collective, not just individuals. This may begin to explain that social

identity leadership has some similarities with transformational leadership regarding its relationship with stress as, by nature, the social identity approach is about the connection between the leader and the group, and that the leader is part of that said group. As the effects of transformational leadership, this connection to the group could potentially act as a buffer for stress and address the primary appraisal process of stress.

Transformational leadership gives followers meaning and reasons to expend effort in their jobs (Grant, 2012). These positive effects of transformational leadership exist at the individual, team, and organisational levels (Searle & Barbuto, 2013). However, research mainly focuses on the individual level of transformational leadership and potential lacks incorporating that leaders are part of the group they lead where they view it this way or not (Haslam et al. 2020). This could explain why no relationship was found between transformational leadership and stress overtime for team members. Although transformational leadership contributes to 'team-supporting behaviours' (Zhang et al., 2011) within organisations and acts as a crucial enabler of improved employee work outcomes, including attitude, behaviour, and performance (Avolio et al., 2004), there is a possibility that over time these behaviours are not consistent which leads to changes in leadership influence. It could be the case that for transformational leadership to influence stress over time significantly, a more group-focused approach should be adopted rather than an individual approach. Followers typically react to leaders' transformational leadership through experiencing changes in their beliefs, cognitions, motivations, and emotions (Van Knippenberg & Sitkin, 2013). As these changes largely transpire internally, focusing on individual-level relationships is warranted, consistent with this focus as most empirical studies of transformational leadership have been conducted at the individual level (Herman & Chiu, 2014). However, it is essential to point out that the effects of transformational

leadership theoretically extended to the group, team, or organisational level (Ding et al., 2017). For instance, a potential mechanism that could explain this is social identity leadership; the results in this thesis explained variance on top of leadership in relation to stress for team members in chapter two. This may promote a more favourable climate in the organisation where followers and their leaders feel a stronger sense of belonging to the organisation, group, or team they operate within (Menges et al., 2011).

The findings from the present thesis illustrate the influence of social identity leadership on stress for leaders and team members. The social identity approach posits that leadership is a multi-dimensional process that focuses on leaders' capacities to represent, advance, create and embed a shared sense of social identity for group members (Haslam et al., 2020). Successful leadership is a process of social influence that involves encouraging followers to contribute to the shared goals (Steffens et al., 2014). To date, only a few studies have applied the influence of social identity leadership on stress or health-related outcomes (van Dick et al., 2018). In addition, these studies only evaluated this relationship for followers and not leaders and, in some cases, only used one of the four principles of social identity leadership (Steffens et al., 2017). The context in which the data was collected is also important to note for the literature as there have been inroads created within the sporting context (e.g., Miller et al., 2020), but not in organisational settings that include large organisations and senior leaders. Therefore, where this thesis provides a valuable contribution to the theoretical implication of social identity leadership and its influence on stress is expanding our knowledge of leaders, not just their team members and using the full range of leadership principles.

Social identity leadership has provided valuable insight into its relationship with objectively and self-reported stress in these studies. However, chapter two highlighted no relationship between social identity leadership and stress over time for both leaders and followers. Although the chapter did highlight for leaders over time, social identity added variance on top of both transformational leadership and social identity leadership in relation to stress and was found to be negatively related to stress as well. Therefore, to fully understand the relationship between stress and social identity leadership, understanding the theoretical implications of a robust negative relationship between stress and social identity needs further exploration in this chapter. Leadership and high-strain work environments have received research attention (Ganster, 2005). Hambrick and colleagues extended the literature on executive job demands and proposed the effects of executive job demands on strategic decision-making and leader behaviours (Hambrick et al., 2005). The authors' recommendations for future research in this literature stream include a call for multi-disciplined research that focuses on how leaders can manage high job demands and research that considers the relationship between executive job demands and leader stress and health (Hambrick et al., 2005).

This thesis begins to answer this line of thinking as chapters two and four highlights the possible buffering effect of leadership on perceived and objective stress. Specifically, the data collection was from senior leaders in chapter four who were at the top of the organisation's leadership hierarchy. This builds upon the research of the relationship between burnout and identity entrepreneurship, one of the social identity leadership principles (Steffens et al., 2017). Chapter three adds that on top of social identity leadership, social identity could play a vital role in leaders managing the stressful job demands they face daily (Haslam, 2004). Nevertheless, it provides a possible insight into the nuances of the

relationship between social identity leadership and stress. Social identity has strong positive effects in reducing stress levels (Haslam et al., 2005). However, there is little to no research concerning the relationship between social identity leadership, which is rooted in the social identity approach, yet there are some insights within the literature surrounding this relationship through a health perspective (Krug et al., 2021; Steffens et al., 2017; van Dick et al., 2018).

In chapter four, social identity leadership was significantly negatively related to self-reported stress and objective stress over time. Work on social identity and leadership also points to the role that leaders and other group members can play in promoting health in the workplace (Steffens et al., 2014; van Dick et al., 2018; Haslam et al., 2020). This, then, provides insights into ways that groups may offset the potentially negative health effects of working in a high-pressure environment with high demands. More specifically, research suggests that leaders (both formal and informal; D'Innocenzo et al., 2016) can do this by engaging in identity leadership that helps to (re)build a sense of social identity in the workplace (e.g., with a team, unit, or the organisation as a whole; Steffens et al., 2014; Haslam et al., 2020). Previous longitudinal research has shown that such behaviour has the capacity to increase group members' engagement in group activities and improve their health and well-being, notably by reducing burnout (Fransen et al., 2020). However, these previous studies do not consider social identity leadership's effects on appraising stress for both leaders and team members cross-sectionally or over time.

This thesis contributes to the literature a possible insight into how social identity leadership affects both primary and secondary stress appraisal. For example, in chapter four, leaders highlighted that social identity leadership was negatively related to objective and

perceived stress. According to the transactional theory of stress, when a leader is confronted with a stressor, something that threatens their cognitive and physiological resources, they will react to the question, "Is this a threat to me". Social identity leadership possibly starts to shift how this question is appraised. Instead of focusing on whether the threat is harmful to "me", leaders could be reframing this to whether this is a threat to "us". Changing the threat from something that harms the individual to the collective could enhance the person's ability to appraise the primary stress. The same could possibly be said for secondary appraisal, "can I cope with the threat," whereby a feeling of connection with the group the leader leads can reframe this to "can we cope with this threat". Unfortunately, due to lack of power, social identity leadership was measured as a collective of all the principles in chapter four. To start drawing on any conclusions surrounding social identity leadership and stress, it is worth further exploring the relationship between social identity and stress. Chapter three highlighted that social identity does not significantly correlate with stress over time, but social identity does for leaders over time, not team members. A deeper exploration into the relationship between stress appraisal and its links to social identity is needed to understand why this could have occurred fully.

6.2.2 Social Identity Leadership Explains Additional Variance Beyond Transformational Leadership in Relation to Stress for Team Members.

The key area to highlight from the thesis is that social identity leadership went above and beyond transformational leadership in relation to stress in chapter two but only for team members. It answers calls from the literature to understand to what extent social identity leadership explains any unique variance beyond other well-established constructs, notably transformational leadership (van Dick et al., 2018). Transformational leadership theory

argues that leaders must develop and communicate a shared vision while also motivating followers to enact this vision (Bass & Bass, 2008). However, controlling for this construct would show that identity leadership involves more than simply being a visionary leader (van Dick et al., 2018). Since the findings of the thesis highlight that both transformational leadership and social identity leadership were similar in their relationship with stress, it is possible to understand why this is using a social identity lens on transformational leadership. Furthermore, in chapters two and three, social identity went above and beyond transformational leadership in relation to stress. Therefore, understanding transformational leadership from a social identity perspective may provide insight into why transformational leadership and social identity leadership have some similarities.

As the chapter two has highlighted, social identity leadership explained additional variance to transformational leadership in relation to stress; this suggests that the identity orientations of the team members play a vital role in the motivational process of transformational leadership, influencing how followers define themselves: as unique individuals (personal identity orientation) or as members of a workgroup (collective identity orientation). Unfortunately, few empirical studies have adopted the social identity perspective to explore the role of followers' identity orientations using transformational leadership in organisations (Reicher et al., 2005). However, one area within the research that could explain why social identity leadership explained additional variance for only team members and not leaders is by applying a social identity perspective on transformational leadership.

Empirical research has examined how group identification and other related constructs such as group cohesiveness and group potency mediate the effect of transformational leadership on work outcomes (Bass et al., 2003). However, few studies pay

attention to the effect of social identities concerning specific work outcomes and understand what factors contribute to these social identities (Lord & Brown, 2004). Where this thesis possibly addresses this is that leaders who adopt a transformational leadership approach that leans into the group aspect of their teams could find that strong social identities emerge, which in turn aids in buffering the effects of stress (Haslam et al., 2005). This reasoning could explain that components of transformational leadership have group-focused principles, which could account for correlational results highlighting the significant relationship between transformational leadership principles and social identity leadership principles in chapter two. Furthermore, social identity leadership could explain additional variance to transformational leadership in team members due to the individualistic nature of transformational leadership only accounting for part of the relationship. The additional variance could be that the group-based ideology of social identity leadership promotes a shared and collective response to stress than the individualised nature that transformational leadership portrays in most of its principles. This begins to answer the call for research to investigate how individual components of transformational leadership relate to work outcomes because examining specific components provides insights on how transformational leadership affects individual and group effectiveness (Kark & Shamir, 2002).

One line of thinking that has started to demonstrate transformational leadership's effect on the individual and group processes is Wu et al.'s (2010) behavioural foci of transformational leadership, that is, individual-focused leadership (e.g., individualised support and intellectual stimulation) and group-focused leadership (group goals). Individual focused leadership aims at affecting individual employees by considering the uniqueness of each follower, whereas group focused leadership deals with influencing the group by creating shared values and seeking common ground (Herman & Chiu, 2014). Therefore, as

highlighted in chapter two, transformational leadership does already have a significant relationship with stress, but due to its limitations of being an individualised approach, its effectiveness can only go so far. This is where potentially social identity leadership adds variance due to its ability to promote and represent the groups' values and needs above and beyond transformational leadership (van Dick et al., 2018).

However, in chapter two, these results were not replicated for leaders. No additional variance was found for social identity leadership. It is possible that transformational leadership for leaders themselves do not feel the need to belong to the group they lead to have a negative relationship with stress. It is worth noting that only one transformational leadership principle was significantly related to stress: transformational role modelling. This builds upon the notion that leaders who feel they have a strong sense of providing a model of how to lead could potentially be better at appraising their own stress due to their individual identity being stronger than a group identity. Individuals with a solid personal identity often perceive themselves as different from others and define themselves based on their own needs, goals, and desires (Brewer & Gardner, 1996). Such individuals seek to achieve personal distinctiveness by being unique in a group, enhancing their self-worth and self-esteem and, in turn, having a better ability to appraise their own stress (Turner et al., 1987; van Knippenberg, 2000). According to Wu et al. (2010), individual-focused transformational leadership directly impacts individual differentiation because leaders adjust their behaviours based on followers' individual differences and personal distinctiveness.

Another possibility for no variance being added is that the leaders in chapter two felt they already were offering group-focused transformational leadership. The results for the team members of these leaders highlight that transformational group goals were negatively

related to stress. Therefore, it is possible that the group-focused aspect of transformational leadership already account for social identity leadership variance in leaders as these leaders could be offering principles of social identity leadership through transformational leadership. This would explain why no variance was explained for leaders. Previous research does illustrate this as group-focused transformational leadership influences followers' group identification because it focuses on the whole group rather than individual members (Dansereau et al., 1984). In this respect, it has been identified that one component of transformational leadership, namely, group goals, owing to their emphasis on shared beliefs, shared values and collective ideologies that would channel followers' concerns to the entire group (Wu et al., 2010). Group-focused transformational leadership effectively enhances followers' collective identity by painting an exciting picture of the organisation's future (Podsakoff et al., 1990). Followers perceive membership in that group as valuable and vital, and thus, tend to define themselves based on the group characteristics and the group's shared vision (Kark et al., 2003). This can be achieved by nurturing followers' acceptance of the group's goals and enabling them to see how they work together to achieve the same goals (Schaubroeck et al., 2007).

Yammarino and Bass (1990) asked for further research to explore how individual components of transformational leadership can influence different work attitudes and behaviours in different ways because the extant research to date has tended to conceptualise transformational leadership as a global construct, presuming that its components are equally essential and exert similar effects on work outcomes. Some transformational leadership components (e.g., individualised support and intellectual stimulation) are conceptualised as individual-focused leadership, influencing individual followers within a workgroup (Wu et al., 2010). On the other hand, research conceptualises the leadership component (fostering the

acceptance of group goals) as group-focused leadership, which influences the group as a whole (Herman & Chiu, 2014). The present thesis contributes to the research on transformational leadership and the social identity approach by highlighting the similarities and differences that transformational leadership and social identity have. Correlations in chapters two and three indicate a strong positive relationship between social identity and transformational leadership. In addition, when it came to what variables were significantly related to stress cross-sectionally, fostering group goals, three social identities leadership and social identity were all negatively related. This possibly indicates how the group-focused principles of transformational leadership and social identity leadership principles are linked, which explains why possibly for leaders in chapter two, no variance was added. As previously highlighted, parts of transformational leadership focus on group-based leadership, not just the individualistic approach that some of the literature has criticised it for being (Yukl, 2010).

The social identity approach views leadership as a group membership-based process where an individual motivates members to internalise group-defining normative attributes and work to achieve group-defining goals that the leader has constructed or embodied (Barreto & Hogg, 2017). However, the individualistic notion of leadership still applies to a group-based approach as an influence in a singular moment is difficult to come from the group, not just one individual (Cialdini & Trost, 1998). This argument could explain the similarities between transformational leadership and social identity leadership as if leadership in its simplest form is a process of influence. Individuals need to be part of the influencing process. Most definitions of 'leader' refer, at the very least, to effectively influencing a group (Yukl, 2013). As such, leadership can now be argued as very much a group influence process (Hogg, 2010); a characterisation that is consistent with social identity leadership that not only

identifies who is most influential and effective but also describes social-psychological mechanisms by which such individuals achieve and sustain this influence (Abrams & Hogg, 2010).

6.2.3 Exploring Beyond Leadership: Does Social Identity, Social Support and Job Satisfaction Explain Additional Variance in Stress.

The findings from the thesis revealed that social identity, social support, explained additional variance to leadership in relation to stress. Chapters two and four revealed cross-sectionally highlighted social identity and social support as a prominent variable that explained additional variance for leaders in relation to stress. In chapter two, when social identity and social support were added to the regression model, they explained significant variance above and beyond both leadership approaches. Furthermore, chapter four illustrated the same finding for senior leaders. This provides a valuable contribution to the literature as it underpins the importance of social identity and social support in the relationship between leadership and stress. Furthermore, it offers the idea that social identity and social support goes beyond leadership in aiding a person to appraise stress.

The findings in the current thesis also contribute to the current literature surrounding the influence of social identity and social support in buffering stress. The social identity approach argues that when people categorise themselves as members of a group, for example, members of an organisation, this makes them were likely to see the world from the perspective of fellow group members, more open to influence from end group members and more likely to trust and co-operate with those in there in the group rather than those that they perceive to be in an out-group (Turner & Oakes, 1997). This, in turn, is the basis for a range of distinctive forms of organisational behaviour, including leadership, social support and job

satisfaction (Ellemers et al., 2004). One of the critical applications of the social identity approach within organisations is explicitly the argument that self-categorisation in terms of relevant group membership has significant implications for the experience of stress (Jetten et al., 2012).

Several reasons speak to insights from the transactional model of stress (Lazarus & Folkman, 1984). The results of cross-sectional data highlight the extent to which people self-categorise as group members; their primary appraisal of stressors is affected by the circumstances and views of the in-group (Levine & Reicher, 1996). This point is supported within the research, which has illustrated that appraisal is determined by the significance of a stressor for a particular social identity and feedback about stressors from in-group but not out-group members (Gallagher et al., 2014). Therefore, a possibility from the findings of this thesis is that leaders' primary appraisal of workplace stressors is buffered by the level of social identity and social support they perceive in their organisation.

Chapter three expanded on this as social identity went above and beyond leadership to negatively affect stress over time, not just cross-sectionally. The extent to which these senior leaders felt part of the in-group amongst other leaders could significantly affect their stress levels in the organisation. This is supported by cross-sectional findings in chapters two and four. In addition, self-categorisation in terms of group membership can also serve as a basis for active coping in the form of a secondary appraisal. This is caused when they are acting in terms of shared group membership, and people should be more likely both to receive support from fellow and group members and to the turret that support in the spirit in which it is intended (Levine et al., 2005). It highlights that people's experience of stress is significantly structured by the nature of their social identity, in other words, their strength of identification

with a given group, as members of either a workgroup or the organisation (van Dick & Haslam, 2012). In further support of this notion was a field study in which there were observed behaviours that high levels of organisational identification were related not only to organisational outcomes such as job satisfaction, but we are also to reduce the experience of cognitive strain (van Dick & Wagner, 2002).

When an individual experiences stress it does not mean they are unfulfilled or unhappy, and equally when an individual feels fulfilled and happy does not mean that they are stress-free (Steffens et al., 2017). This could highlight how different people appraise stress. The findings of chapters two and three suggest that high organisational identification has a negative relationship towards stress within leaders within said organisation (Horton et al., 2014). Furthermore, research indicates that high social identification is interpreted to be a basis for experiencing positive outcomes such as social support from colleagues rather than being a basis for avoiding adverse outcomes (Cruwys et al., 2014; Haslam et al., 2009). This branch of the literature lens supports the notion that more potent positive effects will be found when health is conceptualised in terms of the presence of well-being rather than the absence of stress. Research on the stress-buffering effects of groups indicates the resource is that groups provide are especially helpful in the context of experiencing stressful events, suggesting that the positive effects associated with identification will be particularly pronounced in helping people to cope with stressful events and thereby in reducing their negative experience of stress (Crabtree et al., 2010).

However, one finding of note was the positive relationship between social support and stress in chapter three which goes against the main body of the literature (Hausser et al., 2020). In other words, perceived social support from fellow leaders was detrimental to the

stress levels of another leader. This finding was found in the top 21 senior leaders of New Zealand's largest co-operative and poses the idea that as leaders become more senior does the importance of social support in appraising stress flip from being beneficial to something threatening to appraising stress. Caution should be noted here given the small sample size, but this may highlight that within senior leadership populations there could be increased hostility, lack of empathy with one another and in-group competition (Gallo et al., 1999). Social identity was negatively related to stress for these senior leaders which highlights there is a sense of "we and "us" but this could be towards the organisation rather than their fellow leaders. Research has highlighted that when there is destructive in-group competition within teams this overrides even the power of have a shared social identity (Zuo et al., 2018). Therefore, it is possible that even though there is a strong sense of organisational identity the in-group competition is a more significant factor to effecting leaders stress levels hence the positive relationship with social support.

Within most of the studies in this thesis, stress was measured by the individual self-reporting their levels of stress over the past month on the Perceived Stress Scale (Cohen, 1983); this is an application of the transactional model of stress. The key strength of the transactional model abstracts is that it offers a compelling insight into the psychological process of stress, highlighting the individual subject's experience of stress in the workplace (Lazarus & Folkman, 1984). However, one potential shortcoming of the transactional model approach is that the individual's analysis is relatively individualistic and does not consider sufficiently the group that that individual works within (Folkman & Moskovitz, 2004). Most research within stress focuses primarily on appraisal as a process related to a person's identity, not their group identity. It is reasonable to suppose that a range of contexts provides answers to these sorts of questions that will be of primary importance in determining a

person's stress-related response (Haslam et al., 2018). Context added to people's social identity plays a vital role in the processes of both primary and secondary stress appraisal that determines: (a) whether a given stressor is perceived as threatening to the self; and (b) if it is, whether or not a person perceives they can cope with said stressor (Lazarus & Folkman, 1984). To theoretically advance why social identity was negatively related for leaders in all cross-sectional studies and for leaders only in chapter three, social identity needs to be examined further through the lens of transactional stress theory.

Evidence of the role that social identity plays in such appraisals emerges from another piece of research in which, before completing a somewhat difficult arithmetic task, university students were exposed to a video-recorded message in which a person who purported to have completed the exercises previously described them as either: (a) stressful; or (b) challenging (Haslam et al., 2004). The same person delivered the message in each condition. However, in different experimental conditions, the participants were told that this person was either a university student (i.e., a fellow in-group member) or someone with a stress disorder (an out-group member). They predicted that, when they completed the task themselves, the students would be more likely to see the task as a positive challenge rather than a source of distress when information to this effect was provided by someone, they believed to be an in-group rather than an out-group member. As predicted, the in-group member thus exerted influence over stress appraisal so that the out-group did not. Following self-categorisation theory, it can be suggested that this is because the in-group members were perceived to share the same identity-based perspective as perceivers and, hence, were more qualified to inform them about the meaning of the social reality they confronted (Turner, 1991). What this highlights, regarding the findings of the thesis, is that those with a strong sense of identity to their organisation are more likely to have a positive reaction to potential stressors that would

normally cause a person to feel threatened. Linking this to the primary appraisal of stress in relation to social identity explains why there is a strong negative relationship beyond leadership. In chapter three, for leaders over time, social identity was the only variable to add variance on top of leadership and, in addition, was the only variable significantly related to stress in a negative way. Therefore, the primary stress appraisal presents an argument as to why this was the case. The feeling of in-group membership towards the organisation was potentially stronger mechanisms for the individual to cope with a stressor than leadership. Furthermore, within a military environment, it has been shown the importance of the association between positive group membership and resilience and social identification and resilience (White et al., 2020). In other words, leaders who feel they belong to positive groups within work alongside having a strong sense of identity with the organisation are positively related to resilience.

As well as affecting primary appraisal, social identity salience also serves as a basis for the secondary appraisal (Lazarus & Folkman, 1984). This is because a person's sense of shared group membership is central to the dynamics of social support (Underwood, 2000). There is partial evidence to this statement in this thesis as social support alongside social identity was significantly negatively related to stress and added additional variance on top of leadership for team members and leaders in chapter two. In addition, to add to the cross-sectional findings in chapter four, social support and social identity added significant variance on top of leadership in relation to perceived stress, and only social support added variance in relation to objective stress. Evidence consistent with these findings is provided by several studies indicating that a sense of shared social identity and sense of social support helps buffer groups, especially those with low status, from adverse environmental threats.

Examining the influence of social identity leadership, social identity, and social support on objective stress. Chapter four was the first study in the thesis to use objective markers of stress rather than self-reported perceived stress. One of the main objectives of this thesis was to examine the effects of social identity leadership in relation to objective stress for leaders. Chapter four split across two parts; cross-sectional data and longitudinal data examined this relationship. Cross-sectionally, identity advancement ("doing it for us") was negatively related to objective stress. However, no relationship was found between objective stress and identity advancement when social support was added. According to the stress-buffering hypothesis, social support can serve as a buffer against stress and a coping resource against the negative effects of adverse life events (Cohen & Wills, 1985). Several studies have observed positive associations between salivary cortisol and measures of perceived social support (Iob et al., 2018). In addition, social support has been shown to be an important variable in the context of stress, especially in relation to hair cortisol concentration measurements (Hostinar et al., 2014).

Building upon these, more recent studies have highlighted the negative relationship between hair cortisol and social support, although these have been conducted in clinical psychology environments investigating mental health diseases, not within organisational environments (Yang et al., 2021). It is difficult to lean into the stress literature as cortisol measurements, and perceived stress self-reporting measurements evaluating workplace stress are proven not to be related (Stalder et al., 2017). It has been suggested that the inconsistent link between work stress and HCC might be induced by the subjective nature of the self-reported questionnaire data in terms of social desirability (i.e., answering questions in a favourable manner) and retrospection bias (i.e., remembering wrong past events) (Stalder et al., 2017). One might argue that these aspects are time-stable and therefore play no part in the

first-differenced data. Equally, variations in biological factors like genetics and hair pigmentation are also eliminated (Herr et al., 2018). However, most of these studies again were conducted cross-sectionally and not over time, so to gain a fuller understanding of the relationship between social identity leadership, social identity and social support, the thesis results of the longitudinal data need to be at the forefront.

Part two of the results in chapter four highlight that social identity was the only factor significantly related to objective stress over time. To clarify, this data was collected only from leaders themselves, not from followers. Previous data linking hair cortisol concentrations and leadership only focus (a) on followers (b) applying it to other popular leadership theories such as transformational leadership (Diebig et al., 2016). This thesis's findings extend past research by linking a biological measure of stress with a psychological aspect of organisational behaviour that has not been researched in social identity leadership. There has been no theory linking leader behaviour to objective indicators of their own stress until now; it is important to generate preliminary insights into this field of inquiry to foster the development of theory. The findings are consistent with recent research on the interrelation between psychological factors and biological outcomes. We could show that leaders who perceive they are social identity leaders have a negative relationship with stress (van der Meij et al., 2018). Further exploration into how the link between social identity leadership and objective stress in large organisations applies is highlighted in the next chapter.

6.3 Applied Implications

Collectively, this thesis has many implications for leaders, organisations, and stress management professionals. First, chapters two and four outlined how leaders who adopt and

develop a social identity approach to leadership will find that they themselves and their team members will have a negative association with stress. This is important for leaders in organisations due to the ever-increasing levels of stress in the workplace that is causing millions of people to be absent from work or not as productive as they potentially could be (Health and Safety Execcutive, 2021). Second, the thesis highlights the potential benefits of fostering a strong sense of identity in the organisation that individuals work for has a positive effect on their stress. Furthermore, these findings highlight the need for people to have a sense of positive group membership with their organisation and feel social support within their organisation in relation to stress. Finally, chapter four presented by using objective measures of stress alongside self-reported measures of stress, leaders could potentially gain further insight into the levels of stress they are feeling subconsciously, not just consciously, thereby giving leaders a greater awareness of stress management actions.

6.3.1 A Social Identity Approach to Leadership Development for Stress Management

Stress is exceptionally costly for organisations as a recent study found that 88% of leaders considered work to be their primary source of stress; only 28% of these same leaders agreed that their organisations were providing resources to allow them to deal more effectively with stress (Campbell et al., 2007). Work-related stress costs organisations billions of dollars a year in lost productivity, health care expenses, and stress-related lawsuits (Sulsky & Smith, 2005). To combat this, an application of this thesis is to apply a social identity leadership approach to stress management in large organisations. To tackle the ever-growing issue of stress in organisations, decision-makers in the organisation need to potentially invest and develop their leaders to be adopting principles of social identity leadership to allow leaders and their team members to manage their stress more effectively.

Leadership development programmes should incorporate social identity leadership principles to apply this learning within organisations to benefit the leader and the organisation from a stress and well-being perspective. There is new research on a social identity leadership development programme called the 5Rs within the literature. The 5R programme is based upon the approach that key forms of organisational behaviour reflect and arise from people's sense of themselves as group members and, if not more than, their sense of themselves as unique individuals (Fransen et al., 2020). For example, chapter four found that leaders who perceived themselves to be identity leaders had a negative relationship with stress. However, the impact social identity leadership has had in practice within large organisations is limited, and its impact on the practice of leadership training and development (Haslam, 2014). Although this thesis did not apply for the 5R programme, elements of each "R" was observed during the research due to the nature of how the data was collected. The data was collected from clients of a leadership development and training company called Impact International. For the past five years, behaviours and actions have been observed about how elements of social identity leadership and the 5R programme have been brought to life through practice with senior leaders.

Applying the 5R's to leadership development programmes will aid leaders in the team to create, embody, advance, and embed a collective sense of "us" in their teams. To do this, a leader must work through the five phases to develop their leadership potential, which chapter four highlights will have a negative relationship with stress. The five stages are Readying ("Why do 'we' matter?"), Reflecting (“Who are we?”), Representing (“What do we want to be?”), Realising (“How do we become what we want to be?”) and Reporting (“Are we becoming what we want to be?", Fransen et al., 2020). The core questions that emerge from each stage provide a framework for organisations to develop their leader to cultivate and

mobilise a sense of us-ness that gives leaders and their teams the tools to create the best possible version of "us" for the benefit of the stress levels of each person. This is a body of evidence also that shared leadership structures in organisations have unique advantages for team effectiveness and team members' health and well-being (Fransen et al., 2020).

Traditional leadership training and development approaches often focus on leaders in isolation and contexts removed from their normal sphere of activity; the 5R program encourages leaders to engage directly with the groups they attempt to lead. In this way, and in line with suggestions that leadership development should focus on the specific contexts in which leaders operate (Day et al., 2014), the program is designed to include and mobilise followers (the team members for whom leaders have responsibility) rather than to exclude them from the leadership process and the broader dynamics of organisational development and change (West et al., 2014). This new and evidence-based approach to leadership possibly goes above a beyond traditional approaches to leadership development that have focused on vertical forms of leadership, which chapter two provided evidence for (Bass, 1990). In such leadership structures, the leader is positioned hierarchically above the team they lead and is seen to achieve collective results by virtue of their unique individual attributes or skills. Although this has its applied benefits, as highlighted in the thesis with transformational leadership having a negative association with stress in chapter two, the scope for social identity leadership inaction is greater as it explains further variance to the individualistic approach of transformational leadership. In reviewing evidence for the effectiveness of this approach, it was concluded that the leadership quality of the formal leader was indeed an essential predictor of both team performance and the well-being of team members (followers) (Hogan & Kaiser, 2005). However, some disadvantages are associated with the traditional idea of having one leader atop a given group structure. Most fundamentally, in today's high-

performance organisational environments, the range and volume of demands placed on leaders and the complexity of those demands make this traditional model unrealistic (Yukl, 2010). Therefore, implementing a leadership development programme for leaders could use the 5R framework by drawing on principles derived from social identity theorising to help leaders create, embody, advance, and embed a collective sense of 'us' in their teams (Haslam et al., 2017). This shared identity builds their leadership capacity and provides a basis for collective goal achievement.

An important note is that stress can aid and enhance performance when people are subjected to it short-term (Dhabhar, 2018). However, when stress becomes chronic and long term, it is not just performance that is affected but also the individual's health. Chronic stress is commonly known for its detrimental effects on cognitive functioning, and it may facilitate the onset and progression of cognitive decline (Dong & Csernansky, 2009). Because the costs of stress are so high, a substantial body of academic research has investigated the causes of stress for employees and how stress may be managed. However, little research has focused specifically on how leader stress differs from employee stress; very little published research has investigated how leadership styles influence the stress levels of leaders themselves, and no research to date has examined the link between enacting a transformational leadership style and leader stress. Traditionally, research on stress and transformational leadership has examined the impact of this leadership style on follower stress and well-being. Although transformational leadership as a construct has been shown to have a positive effect buffering stress, this thesis suggests that organisations and leaders should adopt a social identity approach to leadership to manage stress levels. Therefore, an application for leaders in large organisations is that they should represent, create, advance, and embed a sense of shared social identity with the groups they work within (Halsam et al., 2020). This will allow leaders

and their team members to have a negative relationship with stress and possibly aid in reducing work-related stress absences, saving organisations millions. Therefore, leaders need to develop their social identity leadership as the benefits could potentially aid the leaders and team members.

The findings have several important theoretical and practical implications for generally analysing the relationship between leadership and well-being. First, previous research concerning the leadership and well-being link has demonstrated that leaders can promote employee well-being in the workplace by engaging in various behaviours that fulfil employees' individual needs. For instance, one main line of research has shown that when leaders are seen by their followers to be more transformational, then those followers also tend to have better health and well-being (Arnold et al., 2007; Kelloway et al., 2012; Nielsen et al., 2008; Zwingmann et al., 2014; for a review see Arnold & Connelly, 2013). Nevertheless, at the same time, reviews suggest that we have a limited understanding of the variety of ways in which leaders have an impact on followers' health (Harms et al., 2017; Kuoppala et al., 2008; Skakon et al., 2010; Arnold et al., 2015). The present research thus advances the literature on the leadership and well-being link by broadening the spectrum of approaches that can explain how leaders' behaviour has a bearing on team members' stress by pointing to the importance of leaders' social identity management. The thesis's findings indicate that leaders can promote follower well-being due to social identity leadership's negative relationship with stress by creating and building a shared sense of belonging among team members.

6.3.2 The Social Cure for Organisational Stress in Leaders and Team Members

Chapter two highlighted the significant relationship between stress and social identity for both leaders and their team members. The relationship was significantly negative, meaning that stress will decrease when social identity increases. A similar finding was found overtime in chapter three, where a significant negative relationship between social identity and perceived stress was found on top of leadership. Therefore, it implies over time that social identity goes above and beyond leadership for leaders in decreasing stress when social identity increases.

Rather than attempting to deal with stress-related problems at this personalised level (by which time one is likely to be addressing the consequences of stress, not its causes), the social identity approach suggests that an alternative is to create viable, fulfilling, and sustainable groups that provide their members with the psychological and material resources to manage stress effectively and appropriately (Haslam et al., 2003). This, of course, is no easy task, and an appreciation of its dimensions requires engagement with thorny political issues of leadership, power, and intergroup relations (Haslam, 2004; Reicher et al., 2005; Turner, 2005).

Previous research investigating social identification in organisations has focused mainly on workgroup and organisational identification as contributors to two classic work-related outcomes: motivation, performance, or turnover (Ng, 2015). The current findings of this thesis build upon the ever-growing concept of the "social cure", where social identification please a vital role in the domain of health and well-being (Jetten et al., 2012). This is important as these findings are timely as research has started to highlight how people's health is a building block for optimal performance and success in organisations (Lundberg & Cooper, 2011). Present finding theoretical value because they suggest that leaders' stress in

the workplace is grounded not just from an individualistic point of view but also in groups and organisations. There is an indication that the organisations that lean into the social identity approach seek to benefit the health of their leaders and members (Knight & Haslam, 2010a).

The thesis results have important implications for leaders in organisations as well. In particular, pointing to the importance of social identity continuity for well-being at work in times of change provides organisations with a guiding framework for understanding how to maintain their employees' health and engagement. Here the results of the thesis show that if employees can stay connected with their work-related groups, this can support their well-being in the face of a range of challenges (Krug et al., 2021). Chapter four highlighted this cross-sectionally that when leaders perceive they are in-group champions, their relationship with perceived and objective stress was negative. Expanding upon this, when leaders perceive to behave in ways that advance the group's interest may have a negative effect on stress for the leader (Haslam et al., 2020). If a leader perceives themselves to advance and promote core interests, stand up for the group and, if threatened, defend the group and its interests, this may then, in turn, have a negative effect on the stress levels of that leader (Steffens et al., 2014). In short, leaders who work to progress the group and act for the benefit of the group in return may potential feel less stressed. This line of thinking prompts the notion of fairness in organisations and specifically how leaders perceive themselves to be fair in their decisions made on behalf of the group. Therefore, if a leader perceives themselves to be fair, they could possibly gain a sense that the group respects them, and in turn, this leads to the group staying further committed to the leader and each other (Blader & Tyler, 2009). To reduce the effects of stress, one possibility is for leaders to set consistent, clear, and attractive goals and provide followers with the necessary information for conducting their work tasks to

aid followers to understand and master their roles within the group (Nielsen et al., 2018). In addition, when the perception of fairness is present, stress levels could be reduced for leaders, but in turn, this could lead to fewer leaders being absent from work due to stress-related leave (Adekanmbi & Ukpere, 2020). It is not that fairness varies with each individual's perspective but rather that it affects how leaders see themselves as members of the group. There is a need for further exploration into how leaders perceive themselves within the broader picture of intergroup contexts (Haslam et al., 2020). This highlights that people see themselves as fairer than others and those within their group compared to those, they perceive to be out-group members (Boldizar & Messick, 1988). In sum, leaders may benefit from adopting an identity advancement style to benefit their own stress levels. When leaders feel they are acting on behalf of the group, then, in turn, they possibly could reduce the effect of objective and perceived stress.

6.3.3 Objective Measures of Stress in Organisations for Leaders

Chapter four used an objective measure of stress by taking hair cortisol concentrations from senior leaders. Hair cortisol is not a new way of extracting cortisol markers, but its use within organisational psychology and organisational practice are contemporary and still being researched to establish its validity and reliability (Stadler et al., 2017). Nevertheless, research that has used hair cortisol to measure stress has yet to target the senior leaders within a large-scale organisation; most previous studies have focused on healthcare workers (Rajcani et al., 2021) or the general work population (Penz et al., 2019). Chapter four captured the objective stress measurements of these senior leaders over six months. During this time, the organisation was in a culture change period as the senior leaders were planning and actioning significant changes to the business and its employees. These changes involved creating a

redundancy plan for employees in the organisation. This was happening outside the study's parameters, but it provides a valuable mechanism to illustrate stress levels of senior managers when a stressful event is happening in their workplace and that they are leading. Hair cortisol provides essential data for senior leaders within organisations as it can capture data over a long period, not just the stress levels at that moment in time like saliva or blood cortisol measures (Stalder & Kirschbaum, 2012). As previously highlighted within this thesis, leaders involved in deciding difficult decisions such as letting people go from an organisation and those involved in direct and indirect downsizing experienced significant increases in physical health problems, e.g., headaches, high blood pressure, depression, and job insecurity (Moore et al., 2004). There is also ample evidence to indicate that chronic stress and unmanageable high job demands result in exhaustion and, ultimately, job burnout (Schaufeli & Bakker, 2004). Therefore, organisations could use hair cortisol concentrations to monitor stress of their employees and provide valuable data into the well-being of its people.

Stress can be a leading factor to cause leaders to make the wrong choice or decision (Thompson, 2010). Therefore, to develop leadership, there should be an understanding that it requires an individual to commit cognitive resources to deal with problems and make influential choices whilst sustaining awareness of the circumstances that could change the individual's decision-making boundaries (Mumford et al., 2007). Often people are put into their leadership position due to their technical skills and how they can share with others rather than those equipped with the skills needed to lead other people, make decisions on behalf of the group and general managerial duties (McClelland & Boyatzis, 1982). Therefore, within organisations, leaders need to be developed and shaped before being put into leadership positions as the demands of the leadership role are interrupted by stress, with can cause aggressive behaviour (Sprague et al., 2011) and lower levels of complex cognitive

functioning (Arnsten, 1998). In addition, those in leadership positions feeling stressed are also less likely to understand viewpoints from a team perspective and become more self-focused (Salovey, 1992).

Furthermore, when a leader is engaged in cognitively demanding jobs, it guides the leader to engage in abusive behaviours (Collins & Jackson, 2015). Therefore, a leader becomes more likely to act destructively towards team members (Bardes & Piccolo, 2010) and can often not engage in positive leadership behaviours (Eubanks & Mumford, 2010). There is then a need to maintain an exemplary reputation so that others' trust in your decision-making can significantly drain one's psychological resources and lead to emotional exhaustion and poorer performance over time (Baer et al., 2015). Overall, based on social identity principles, leadership development is not simply about training leaders to be better individuals but to be better group members who can harness and utilise an understanding of their group and the organisation they lead (Slater & Barker, 2019). One such way of developing leaders to reduce their stress could potentially be the 5R programme based upon the social identity leadership principles.

6.4 Strengths and Limitations

A strength of the research programme is the quality of the data, precisely the participant audience involved in each study. All participants were full-time employees within three independent blue-chip organisations: (a) chapter two involved mid-managers with a large retail bank and their followers; (b) chapter three had data from the top 25 within the organisation and those who reported to them who were still considered senior management; and (c) chapter four involved senior managers, including the chief executive in a large global food retail organisation. Few studies have used data from “true” senior leaders within

organisations regarding social identity leadership and stress (Steffens et al., 2017; van Dick et al., 2018). Steffens and colleagues' data was collected from manual workers in a solar panel factory but provided insight into the relationship between leader identity entrepreneurship, burnout work engagement and employee turnover. Although this study provided a robust methodology framework and valuable insight into leadership identity in action over time, the population differs entirely from those who contributed. In addition, van Dick, and colleagues (2018) collected data from those working in various industries and within different sized organisations. However, only 1.9% of the participants were from large organisations. This current thesis provides the literature with an insight into the relationship between social identity leaders and stress in large working organisations operated by these senior leaders. This allows the thesis to be applicable for leaders who operate under high-pressure work demands and deal with enormous stressful decisions that affect themselves and their followers.

Data were collected from cross-cultural populations in each chapter. Chapters two and four had participants from UK based organisations that work globally. However, chapter three provided the thesis with data from the largest co-operative organisation in New Zealand and from the most senior leaders within said organisations and their team members. This enriches the data set collected in the thesis and creates a wider investigation into the objectives and aims set out. There is often a lack of cross-cultural data regarding the influence of leadership, so a strength of this thesis is its data set from across the world (Ding et al., 2017). In addition to the cross-cultural data collected, the thesis highlighted the differences between leaders and followers due to the fact that access was permitted for the two populations within an organisation. By actively recruiting the leaders of the followers involved within the studies, the thesis could gain data from both the leader and the follower

as within the literature, leadership and stress are often only evaluated in followers (Harms et al., 2017). This provided the literature with further knowledge into the relationship between leaders and followers relating to leadership and stress.

The research in chapter four used physiological biomarkers to measure the stress levels of senior leaders. Specifically, hair cortisol concentrations were extracted from senior executive leaders. Chapters four provided cross-sectional and longitudinal evidence for the use of objective measures of stress in organisations' evidence. This method of extracting cortisol is contemporary within organisational psychology as the previous method to extract cortisol had limitations (Russell et al., 2012). For example, saliva extraction captures cortisol levels of the participant that day only, and the measurement could be affected by the time of the day the sample was taken due to cortisol fluctuations throughout the day (Gow et al., 2010). In addition, Gow & colleagues (2010) highlighted that blood cortisol extraction had limitations due to the extraction method being a blood sample; participants' cortisol levels would severely increase when a needle was seen or placed within their arm, making the measurement accuracy challenging to analyse.

As stated before, hair cortisol concentrations (HCCs) can be measured up to six months from a single extraction which provides a valuable insight over time of a person's stress level, although three months has been shown to be the optimum time of analysis (Kirschbaum et al., 2009). Most studies examining leadership and cortisol stress levels have been cross-sectional by nature which only provides a snapshot into this relationship (Stadler et al., 2017). There was a call from the literature to expand on cortisol data stress longitudinally, which chapter four answered (van der Meij et al., 2018). In addition, the link between leadership and cortisol stress had only applied popular leadership theories such as

transformational leadership and transactional leadership to followers (Diebig et al., 2016). In chapter four, social identity leadership was applied as a measure of leadership for leaders, which is the first of its kind. In addition to this, the study design was longitudinal as well as cross-sectional due to the lack of literature on this relationship over time. The results provide valuable insight into how social identity leadership had a significant negative relationship with cortisol stress. A final strength of the research is that combining psychological and physiological indicators can better assess which job conditions produce stress and potentially produce good or bad employee health (van der Meij, 2018).

Despite the strengths and novel findings, the research within this thesis is not without its limitations. First, the studies all used quantitative data collection methods, specifically using mostly self-reported measures. Self-report measures are susceptible to bias, although they have been widely accepted as the tool to measure both perceived and received leadership. Beyond the immediate features of questionnaires, there is also concern about the context in which self-report measures are used, in terms of the design of studies, and the statistical treatment of questionnaire data at the analysis stage (Razavi, 2001). People tend to hold overly favourable views of their abilities in many social and intellectual domains. It is suggested that this overestimation occurs, in part, because people who are unskilled in these domains suffer a dual burden. Not only do these people reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the metacognitive ability to realise it (Kruger & Dunning, 1999). Alongside self-reporting measures, a new contemporary method of measuring stress was used in chapter four, highlighted several limitations.

It has been suggested that the inconsistent link between perceived stress and HCC might be induced by the subjective nature of the self-reported questionnaire data in terms of

social desirability (i.e., answering questions favourably) and retrospection bias (i.e., remembering wrong past events) (Stalder et al., 2017). Self-reports can be highly influenced by the respondents' social desirability and self-protective or strategic concerns (Trower et al., 1990). Moreover, it has been shown that psychological and physiological stress measures are more likely to be correlated if the psychological measures are assessed during the stressful situation itself (Hellhammer & Schubert, 2012). In addition, from chapter four, it cannot be stated whether the experience of stress caused HCC to change or that HCC changed the way stress was experienced. This, therefore, makes it difficult to relate to the transactional theory of stress as cortisol data does not provide insights into what factors allow people to appraise stressors (Rowold et al., 2017). Also, we did not assess the impact of significant life events (e.g., divorce, promotion), so we could not investigate how these events affected perceived stress and HCC. One example was a participant who had to withdraw from timepoint two as they had pneumonia which severely affected their cortisol levels and had nothing to do with their stress levels. In addition, the time of the year that hair cortisol is extracted can affect its measurements to decrease the influence of seasonal effects on cortisol concentrations laboratory assessments (Staufenbiel et al., 2013). Moreover, a rather simple limitation of using hair cortisol as a measure of stress in organisations is that people need to have adequate hair length for the data to be beneficial. In chapter four people could not take part in the research due to the fact they did not have long enough hair (3cm) to provide a reliable and valid hair cortisol extraction. This could potentially limit the data being collected in organisations due to people having short hair or no hair at all in the areas needed for data collection.

Furthermore, there were no measurements of personal factors or other physiological factors that may affect stress levels in chapter four. These factors such as resilience, coping

style or self-efficacy may possibly lessen the influence of the leader's perception of the stress (Lazarus, 2000). In addition to the methodology and process, the limitations are the method of data gathering and how stress data is collected from participants. The perceived stress scale focused on the stress levels participants consciously thought they had, and it acted as a control for cortisol levels in relation to stress. As highlighted by the HSE report (2021), stress was the number one reason for absenteeism in organisations within the United Kingdom and to be specific, this was mainly due to workload. However, in none of the chapters was workload factors considered for leaders' and followers' stress levels. Studies have shown that when assessing the relationship between prolonged stress and HCC in a working population, it is critical to account for workload factors (van der Meij et al., 2018). It is possible that a certain stress threshold may need to be reached to detect a relationship between self-reports of stress and changes in cortisol. Nevertheless, chapter four only provided data from senior leaders. By not including data on their followers, the study only provides a small picture of the relationship of social identity leadership effects on objective stress in organisations.

It is worth noting that research that relies on three or more time points could provide even more conclusive findings. Even though some of the results (chapter three) did not provide any evidence for causality (leadership stress), this is not to say that team member stress does not impact leader behaviour (van Dierendonck et al., 2004). Future work employing multiple time points might quantify the potentially mutually reinforcing relationship between leadership and stress. Furthermore, to address process issues in more depth, future research should employ designs that include time-series analyses and experimental manipulations and leadership interventions to reduce stress (Kelloway & Barling, 2010) to examine the causal impact of identity leadership on team members' stress levels. Although, the methodology of the present research advanced upon previous cross-

sectional investigations. While the findings revealed some associations, the research did not allow for examining potential boundary conditions of the leadership and stress relationship. Expanding upon this, due to the nature of the research within large organisations and working with senior leaders, each group of participants demanded complete anonymity. Therefore, no environmental data was collected in this thesis, allowing the research to compare demographics, sex differences, and even age differences. This limited the data as it does provide a full picture and allow for associations to be analysed on a deeper level. Furthermore, another limitation was the lack of behavioural data collected alongside biomarkers; absenteeism (number of days of absence due to stress), presenteeism and performance markers.

In addition, another condition that prevented the research examine a wider scale of the relationship between variables was the time it took participants to complete a questionnaire in chapter four, for example, the organisation that allowed the research to be conducted asked for the questionnaire to be as short as possible and take no longer than two minutes. This informed the decisions on what measures were used for each variable due to the length of each individual scale. However, this was counteracted by only using validated measures that had a short-form version, for example, the single-item measure of social identity (Postmes et al., 2013). Future research would begin with effectively negotiating with organisations to allow the use of demographic and behavioural data that is still anonymous for everyone's privacy and negotiating the time for questionnaires or other research methods to be deployed to enrich the quality of the research.

6.5 Future Research Directions

First, the most significant area for further research is understanding how social identity leadership possibly appraises the stress levels of leaders and their team members. Further investigation into the nuance of these relationships is needed. There is a plethora of literature on the relationships between primary and secondary stress appraisal systems and social identity, yet there is limited study on this for social identity leadership (Haslam & van Dick, 2014). One piece of research that has shown promise in this area that could be built upon is understanding the relationship between social identity leadership and stress appraisal in sport (Miller et al., 2020). This research found within sport that coach's engagement in social identity leadership was key to forming a shared social identity, which in turn was broadly adaptive for stress appraisals both cross-sectionally and longitudinally (Miller et al., 2020). Future research should adopt the transactional model of stress in relation to social identity leadership for perceived stress that is conscious to the individual as it offers a clear and compelling conceptualisation of stress as a psychological process in which people's subjective experience is central (Haslam et al., 2020).

Furthermore, due to the mixed results of the thesis, more research is needed to determine the true interconnected nature of social identity leadership and stress in large organisations (van Dick et al., 2018). For example, identity leadership may positively impact followers' attitudes and behaviours (Haslam et al., 2011); it is also the case that the reverse may also be true (e.g., well-performing employees encourage leaders to invest more time in identity-building activities). Also, note that many of the patterns in the thesis are consistent with those observed in a range of experimental studies in which the manipulation of identity leadership allows for causal inferences to be drawn about its impact on followers (e.g., Haslam & Platow, 2011; Platow et al., 2006; Reicher et al., 2005; Steffens et al., 2013). In addition, research on the social identity approach to leadership has not systematically

examined how leader identity is impacted by organisational culture (Haslam et al., 2020). Further research could potentially explore the mechanisms of the organisation's culture and its impact on leader perception of their own identity leadership and how followers perceive their leadership in relation to stress. Future work would be worth examining how membership of multiple workgroups, for example, a team, a department, an organisation, and leaders' management of these multiple identities relate to stress, social support, and job satisfaction (Ramarajan, 2014). In line with research showing that the compatibility between different identities has an essential bearing on organisational behaviour, including health and well-being (Brook et al., 2008). In addition, it would be fascinating to investigate whether and how leaders' rhetorical and practical efforts to enhance compatibility between different identities proves essential for team members' stress levels (van Dick et al., 2018).

Accordingly, future research should extend the present work by examining a range of factors to moderate the strength of the relationships observed in the present research. These might include the context of organisational change and restructuring (e.g., the imperative to engage in different leadership approaches might be particularly pronounced following significant organisational change (Jimmieson et al., 2004). Future research might also shed light on the potential for the darker side of leadership whereby increased social identity leadership has fewer health benefits, or perhaps even health detrimental, impact on leaders and their team members. Indeed, evidence of the dark side of transformational leadership shows that types of leader's behaviours, such as ambiguity enhancing, include articulating a vision and displaying high-performance expectations (Diebig et al., 2016). In addition, where followers have high levels of presenteeism may worsen follower stress and sickness (Nielsen & Daniels, 2016). In this regard, it seems entirely possible, for example, that social identity leadership may lead to greater stress in situations where leaders cultivate group norms and

ideals that are damaging to health, for example, those that encourage long working hours, unhealthy habits, and lifestyles.

In chapter three, neither leadership approaches added any significant variance in relation to stress over time. However, no CFA was conducted between the two leadership approaches, so it is difficult to determine their similarities and differences. One such approach could be using the 'step-down' methodology to assess the invariance between the two leadership constructs (Brown, 2006). Therefore, future research should further highlight if social identity leadership adds actual variance to transformational leadership for both leaders and followers. A possible avenue for this is to adopt a mixed-method approach using both quantitive and qualitative data collection to broaden the picture of how social identity leadership goes above and beyond transformational leadership. The results of this thesis are mainly based on cross-sectional data, making causal inferences impossible. However, given the novelty of the current research and the academic programme of research proposed and examined, it seems justified to seek to provide initial insight into the issues we were addressing utilising cross-sectional investigation.

Nevertheless, future research should employ longitudinal and intervention designs to further assess the impact of the present relationships in related contexts. In addition, future research could enhance research fidelity by adopting different methods that are better suited to capturing the lived experience of participants. More specifically, along the lines of face-to-face interviews with formal leaders, researchers could also conduct in-depth interviews with the team members, paying attention to internal experiences that may be difficult to access (e.g., via observation alone). Furthermore, observational data, texts, or dialogical exchanges could be used to understand better the processes that underpin its efficacy (Fransen et al.,

2020). Another issue concerning the measurement of leadership variables in the current study is multiple team membership (O'Leary & Woolley, 2011), where employees have different potential leaders that impact their work. Therefore, future research might explicitly assess multiple team membership of participants to examine how the leadership of multiple teams impacts employees.

Another potential area of concern is the role of individual, behavioural and environmental factors as moderators of the relationships between leadership and stress. There is extensive evidence that such moderators are present in broader stress (Halbesleben & Buckley, 2004), but they remain relatively unexplored in leadership. This also leads to exploring the multiple sources of social identification in the workplace that we are assuming. However, the team they work with is their primary source when there could be other sources that have significant effects on the levels of social identification each person has. This could also affect people's well-being as they may use other sources of social identification to enhance their well-being; therefore, management might not be the root cause of lowering stress. The context in which the data was collected is essential to highlight. The blue-chip organisation wanted complete anonymity for all participants apart from distinguishing between a senior leader or that leader's direct report/team member. This provided access to leaders working and leading in a dynamic market who face daily pressures to deliver results. Although there is no further demographic information, which is a limitation, by using this population of participants, we get a real sense of what leaders and team members need to perform in a high-pressure environment that demands psychological and psychosocial resources to thrive.

Recent calls need to be answered to advance theory to apply more innovative and rigorous methods in the organisational and sports psychology literature (Antonakis et al., 2012). One main limitation of existing studies is that they rely solely on self-reported stress measures. In other words, followers rate their own perceived stress levels over a certain period. To address this limitation, one pathway could, for instance, be the combination of biological and psychological research traditions to integrate and advance knowledge in the organisational context regarding biological aspects of organisational behaviour (Arvey & Zhang, 2015). Unfortunately, a limited number of leadership studies consider such integrative research questions. Therefore, one of the primary objectives moving forward could be to provide insights on this important gap in existing research and, for the first time, examine leadership relationships with an objective biological criterion of leaders' stress, namely hair cortisol. In recent years, cortisol has become the major neuroendocrine indicator of stress in scientific literature and has been the most studied hormonal indicator in the human body (Ganster & Rosen, 2013). The extraction of cortisol from hair displays a general stress level over time and enables us to look at associations between leadership and stress within a prolonged time frame.

The use of hair cortisol as an objective marker of stress in organisational research is an innovative approach. However, the validity of this novel method is still actively under debate (Staufenbiel et al., 2013). As hair cortisol is new in organisational science, essential aspects of the validity of this stress measure need further evaluation. There is a balance between studies supporting a direct fit between objective and subjective stress criteria and studies that do not support this association (Staufenbiel et al., 2013). Compared with traditional extraction methods of cortisol (i.e., blood, serum, saliva), Stalder and Kirschbaum (2012) revealed significant positive associations between hair cortisol and accumulated

salivary cortisol levels. Hair cortisol has the potential to be a biomarker of chronic stress in organisations which could help save companies a significant amount of money (Schaafsma et al., 2021). Future research should investigate longitudinally the effects of long-term stress levels using hair cortisol concentrations as objective measures as it has the potential to provide data above and beyond self-reporting data. Furthermore, studies using human samples have shown correlations between high chronic stress exposure and hair cortisol (Staufenbiel et al., 2013) in high-stress conditions like demanding working environments (e.g., shift work or unemployment), for people who have experienced profound life events (e.g., death of a close relative or severe illness), for those experiencing chronic pain. The economic and health effects of chronic long-term stress in organisations in a hybrid working model could be an avenue of future research using hair cortisol concentrations to highlight the stress levels over time.

6.6 Conclusion

The current thesis makes a novel contribution to leadership, social identity, and stress literatures. One of the critical contributions of this research programme is examining stress alongside social identity (and transformational) leadership, social identity, and social support across three empirical studies. In turn, this thesis goes some way to advance knowledge in social identity leadership by better understanding the role leaders have not just for themselves, but their team member's, response to stress. In summary, through both cross-sectional and longitudinal evidence, the present research programme provides some evidence of negative relationships between both social identity leadership and social identity, and stress. While no significant differences or relationships were found between leaders and followers over time, differences did emerge cross-sectionally. There was cross-sectional

evidence to suggest that leaders reported greater perceived social identity and job satisfaction than their leaders. However, team members reported higher social identity leadership, transformational leadership, social support, and self-reported stress. In addition, cross-sectional data of team members highlighted that social identity leadership had a negative relationship with stress and added additional variance in addition to transformational leadership. Though these results were not seen cross-sectionally with leaders, results highlighted the negative relationship social identity leadership had with self-reported and objective stress over time. In addition to leadership, social identity was highlighted above and beyond leadership as a potential buffer to self-reported stress over time. The research highlighted creating an organisational identity shared amongst leaders as a potential buffer to work stress both conscious and unconsciously. It also highlighted to potential benefits of adopting a social identity approach to leadership as it went above and beyond transformational leadership in its relationship with stress. Future research could apply the social identity leadership approach to examine the interplay between social factors and their role in helping leaders manage their stress for the organisations benefit.

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APPENDICES

APPENDIX 1: INFORMATION SHEET, CONSENT FORM, AND QUESTIONNAIRES USED FOR CHAPTER TWO

Information Sheet

Dear Participant,

I am a post-graduate student in the Faculty of Health Sciences at Staffordshire University. As part of my research, I am interested in looking at the relationship between leadership, well-being and performance.

What does it involve?

Your participation will involve completing an online questionnaire regarding perceptions of leadership, performance and well-being. The participation in completing this questionnaire should take around 15 mins.

Do I have to take part?

Your participant in this study is completely voluntary and you have the right to withdraw at any point without further consequence. You are able to withdraw from when you begin the research until two weeks after completion of the scales. If at any point you would like to withdraw please email the researcher (Stuart Kelly) directly.

It is suggested that you read this information form 24 hours before deciding whether to participate in the study.

What are the benefits of taking part?

Your participation will contribute to a greater understanding of how Leadership can affect performance and well-being in the workplace.

Are there any negatives from taking part?

It is unlikely that the study will cause risk or harm. However, If you experience any stress related symptoms after completing this study then please contact Mind on: 0300 123 3393/ info@mind.org.uk, or visit their website http://www.mind.org.uk for more information.

What will happen to my results and information?

The data you provide will be kept anonymous at all times and only I and my supervisors (, Dr Jamie Barker & Dr Matthew Slater) will see your data. All data will be kept secured and stored for up to 10 years in line with the university ethical guidelines.

Who can I contact if I have further questions regarding the study?

If you have any questions regarding the research or your participation in this study, please contact the lead researcher via email: stuart.kelly@research.staffs.ac.uk or Dr Jamie Barker on J.B.Barker@staffs.ac.uk.

Yours Sincerely,

Stuart Kelly, MSc, BSc, MBPsS

Consent Form

Please tick the appropriate boxes.

If you do not agree with any of the statements, unfortunately you are excluded from the study and are not required to complete the rest of the consent form:

	Agree
I am at least 18 years of age	☐
I am not currently suffering from any mental health conditions related to stress.	☐
I can identify myself with at least one of the following groups: Impact participant & Team member of an Impact participant	☐

I confirm that I have read and understood the information form for the project.	
I understand that my participation is voluntary and I understand that I may withdraw my consent and discontinue participation at any time: from the study start date to the date the research has been submitted for publication, without further consequences.	
I agree and understand that the data collected for this study will only be seen by the lead researcher and supervisory team. All data will be stored safely on a password-protected computer.	
I agree to take part in the above study.	

Questionnaires

Identity Leadership Inventory (ILI) Instrument and Scoring Guide (ILI Version 1.0)

Identity Leadership Inventory Rater Form (ILI Version 1.0)

Guidelines: In what follows, 'the group' or 'this group' refers to the group of people that the leader has responsibility for (e.g., it may be a particular group, a team, a department, a branch, or an organization).

Instructions: Please judge to what extent the leader engages in the various behaviors and activities listed by selecting the corresponding number using the following scale.

1. This leader embodies what the group stands for.
2. This leader is representative of members of the group.
3. This leader is a model member of the group.
4. This leader exemplifies what it means to be a member of the group.
5. This leader promotes the interests of members of the group
6. This leader acts as a champion for the group.
7. This leader stands up for the group.
8. When this leader acts, he or she has the group's interests at heart.
9. This leader makes people feel as if they are part of the same group.
10. This leader creates a sense of cohesion within the group.
11. This leader develops an understanding of what it means to be a member of the group.
12. This leader shapes members' perceptions of the group's values and ideals.
13. This leader devises activities that bring the group together.

14. This leader arranges events that help the group function effectively.

15. This leader creates structures that are useful for group members

Identity Leadership Inventory Leader Form (ILI Version 1.0)

Guidelines: In what follows, ‘the group’ or ‘this group’ refers to the group of people that you have responsibility for (e.g., it may be a particular group, a team, a department, a branch, or an organization).

Instructions: Please judge to what extent you engage in the various behaviors and activities listed by selecting the corresponding number using the following scale.

1. I embody what the group stands for.

2. I am representative of members of the group.

3. I am a model member of the group.

4. I exemplify what it means to be a member of the group.

5. I promote the interests of members of the group.

6. I act as a champion for the group.

7. I stand up for the group.

8. When I act, I have the group’s interests at heart.

9. I make people feel as if they are part of the same group.

10. I create a sense of cohesion within the group.

11. I develop an understanding of what it means to be a member of the group.

12. I shape members’ perceptions of the group’s values and ideals.

13. I devise activities that bring the group together.

14. I arrange events that help the group function effectively.

15. I create structures that are useful for group members.

Identity Leadership Inventory Scoring Key (ILI Version 1.0)

Scoring instructions: The ILI scores can be calculated by summing the items and dividing the resulting total score by the number of items that comprise each dimension. The dimensions identity prototypicality (items 1, 2, 3, and 4), advancement (items 5, 6, 7, and 8), and entrepreneurship (items 9, 10, 11, and 12) consist of four items each and identity impresarioship (items 13, 14, and 15) consists of three items.

Identity Prototypicality: Identity Advancement: Identity Entrepreneurship: Identity Impresarioship:

Total / 4 = ____ Total / 4 = ____ Total / 4 = ____ Total / 3 = ____

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Transformational Leadership Scale

I am always seeking new opportunities for the unit/department/organisation (1) Strongly Disagree - (7) Strongly Agree

I paint an interesting picture of the future for our group (1) Strongly Disagree - (7) Strongly Agree

I have a clear understanding of where we are going (1) Strongly Disagree - (7) Strongly Agree

I inspire others with my plans for the future (1) Strongly Disagree - (7) Strongly Agree

I am able to get others committed to my dream of the future (1) Strongly Disagree - (7) Strongly Agree

I lead by “doing” rather than simply “telling” (1) Strongly Disagree - (7) Strongly Agree

I provide a good model to follow (1) Strongly Disagree - (7) Strongly Agree

I lead by example (1) Strongly Disagree - (7) Strongly Agree

I foster collaboration among work groups (1) Strongly Disagree - (7) Strongly Agree

I encourage employees to be "team players" (1) Strongly Disagree - (7) Strongly Agree

I get the group to work together for the same goal (1) Strongly Disagree - (7) Strongly Agree

I develop a team attitude and spirit among my employees (1) Strongly Disagree - (7) Strongly Agree

I show that I expect a lot from my employees (1) Strongly Disagree - (7) Strongly Agree

I insist on only the best performance (1) Strongly Disagree - (7) Strongly Agree

I will not settle for second best (1) Strongly Disagree - (7) Strongly Agree

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement

carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree

Circle the "2" if you Strongly Disagree

Circle the "3" if you Mildly Disagree

Circle the "4" if you are Neutral

Circle the "5" if you Mildly Agree

Circle the "6" if you Strongly Agree

Circle the "7" if you Very Strongly Agree

1. There is a special person who is around when I am in need.

2. There is a special person with whom I can share joys and sorrows.

3. My family really tries to help me.

4. I get the emotional help & support I need from my family.

5. I have a special person who is a real source of comfort to me.

6. My friends really try to help me.

7. I can count on my friends when things go wrong.

8. I can talk about my problems with my family.

9. I have friends with whom I can share my joys and sorrows.

10. There is a special person in my life who cares about my feelings.

11. My family is willing to help me make decisions.

12. I can talk about my problems with my friends.

Social Identity

I identify with my organisation

(1) Strongly Disagree - (7) Strongly Agree

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4= Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4-item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.

	JOB SATISFACTION SCALE Paul E. Spector Department of Psychology University of South Florida Copyright Paul E. Spector 1994, All rights reserved.	
	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	Disagree very much / Disagree moderately / Disagree slightly / Agree slightly / Agree moderately / Agree very much
1	I feel I am being paid a fair amount for the work I do.	1 2 3 4 5 6
2	There is really too little chance for promotion on my job.	1 2 3 4 5 6
3	My supervisor is quite competent in doing his/her job.	1 2 3 4 5 6
4	I am not satisfied with the benefits I receive.	1 2 3 4 5 6
5	When I do a good job, I receive the recognition for it that I should receive.	1 2 3 4 5 6
6	Many of our rules and procedures make doing a good job difficult.	1 2 3 4 5 6
7	I like the people I work with.	1 2 3 4 5 6
8	I sometimes feel my job is meaningless.	1 2 3 4 5 6
9	Communications seem good within this organization.	1 2 3 4 5 6
10	I do not feel that the work I do is appreciated.	1 2 3 4 5 6

APPENDIX 2: INFORMATION SHEET, CONSENT FORM, AND QUESTIONNAIRES USED FOR CHAPTER THREE

Information Sheet

Dear Participant,

I am a post-graduate student in the Faculty of Health Sciences at Staffordshire University. As part of my research I am interested in looking at the relationship between leadership, well-being and performance.

What does it involve?

Your participation will involve completing an online questionnaire regarding perceptions of leadership, performance, and well-being. The participation in completing this questionnaire should take around 15 mins. You will need to take this questionnaire again in six-months time.

Do I have to take part?

Your participant in this study is completely voluntary and you have the right to withdraw at any point without further consequence. You are able to withdraw from when you begin the research until two weeks after completion of the scales. If at any point you would like to withdraw please email the researcher (Stuart Kelly) directly.

It is suggested that you read this information form 24 hours before deciding whether to participate in the study.

What are the benefits of taking part?

Your participation will contribute to a greater understanding of how Leadership can affect performance and well-being in the workplace.

Are there any negatives from taking part?

It is unlikely that the study will cause risk or harm. However, If you experience any stress related symptoms after completing this study then please contact Mind on: 0300 123 3393/ info@mind.org.uk, or visit their website http://www.mind.org.uk for more information.

What will happen to my results and information?

The data you provide will be kept anonymous at all times and only I and my supervisors (, Dr Jamie Barker, Dr Matthew Slater & Dr Martin Turner) will see your data. All data will be kept secured and stored for up to 10 years in line with the university ethical guidelines.

Who can I contact if I have further questions regarding the study?

If you have any questions regarding the research or your participation in this study, please contact the lead researcher via email: stuart.kelly@research.staffs.ac.uk or Dr Jamie Barker on J.B.Barker@staffs.ac.uk.

Yours Sincerely,

Stuart Kelly, MSc, BSc, MBPsS

Consent Form

Please tick the appropriate boxes.

If you do not agree with any of the statements, unfortunately you are excluded from the study and are not required to complete the rest of the consent form:

	Agree
I am at least 18 years of age	☐
I am not currently suffering from any mental health conditions related to stress.	☐
I can identify myself with at least one of the following groups: Impact participant & Team member of an Impact participant	☐

I confirm that I have read and understood the information form for the project.	
I understand that my participation is voluntary and I understand that I may withdraw my consent and discontinue participation at any time: from the study start date to the date the research has been submitted for publication, without further consequences.	
I agree and understand that the data collected for this study will only be seen by the lead researcher and supervisory team. All data will be stored safely on a password-protected computer.	
I agree to take part in the above study.	

Questionnaires

Identity Leadership Inventory (ILI) Instrument and Scoring Guide (ILI Version 1.0)

Identity Leadership Inventory Rater Form (ILI Version 1.0)

Guidelines: In what follows, 'the group' or 'this group' refers to the group of people that the leader has responsibility for (e.g., it may be a particular group, a team, a department, a branch, or an organization).

Instructions: Please judge to what extent the leader engages in the various behaviors and activities listed by selecting the corresponding number using the following scale.

16. This leader embodies what the group stands for.

17. This leader is representative of members of the group.

18. This leader is a model member of the group.

19. This leader exemplifies what it means to be a member of the group.

20. This leader promotes the interests of members of the group

21. This leader acts as a champion for the group.

22. This leader stands up for the group.

23. When this leader acts, he or she has the group's interests at heart.

24. This leader makes people feel as if they are part of the same group.

25. This leader creates a sense of cohesion within the group.

26. This leader develops an understanding of what it means to be a member of the group.

27. This leader shapes members' perceptions of the group's values and ideals.

28. This leader devises activities that bring the group together.

29. This leader arranges events that help the group function effectively.

30. This leader creates structures that are useful for group members

Identity Leadership Inventory Leader Form (ILI Version 1.0)

Guidelines: In what follows, ‘the group’ or ‘this group’ refers to the group of people that you have responsibility for (e.g., it may be a particular group, a team, a department, a branch, or an organization).

Instructions: Please judge to what extent you engage in the various behaviors and activities listed by selecting the corresponding number using the following scale.

16. I embody what the group stands for.

17. I am representative of members of the group.

18. I am a model member of the group.

19. I exemplify what it means to be a member of the group.

20. I promote the interests of members of the group.

21. I act as a champion for the group.

22. I stand up for the group.

23. When I act, I have the group’s interests at heart.

24. I make people feel as if they are part of the same group.

25. I create a sense of cohesion within the group.

26. I develop an understanding of what it means to be a member of the group.

27. I shape members’ perceptions of the group’s values and ideals.

28. I devise activities that bring the group together.

29. I arrange events that help the group function effectively.

30. I create structures that are useful for group members.

Identity Leadership Inventory Scoring Key (ILI Version 1.0)

Scoring instructions: The ILI scores can be calculated by summing the items and dividing the

resulting total score by the number of items that comprise each dimension. The dimensions identity prototypicality (items 1, 2, 3, and 4), advancement (items 5, 6, 7, and 8), and entrepreneurship (items 9, 10, 11, and 12) consist of four items each and identity impresarioship (items 13, 14, and 15) consists of three items.

Identity Prototypicality: Identity Advancement: Identity Entrepreneurship: Identity Impresarioship:

Total / 4 = ____ Total / 4 = ____ Total / 4 = ____ Total / 3 = ____

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Transformational Leadership Scale

I am always seeking new opportunities for the unit/department/organisation (1) Strongly Disagree - (7) Strongly Agree

I paint an interesting picture of the future for our group (1) Strongly Disagree - (7) Strongly Agree

I have a clear understanding of where we are going (1) Strongly Disagree - (7) Strongly Agree

I inspire others with my plans for the future (1) Strongly Disagree - (7) Strongly Agree

I am able to get others committed to my dream of the future (1) Strongly Disagree - (7) Strongly Agree

I lead by “doing” rather than simply “telling” (1) Strongly Disagree - (7) Strongly Agree

I provide a good model to follow (1) Strongly Disagree - (7) Strongly Agree

I lead by example (1) Strongly Disagree - (7) Strongly Agree

I foster collaboration among work groups (1) Strongly Disagree - (7) Strongly Agree

I encourage employees to be “team players” (1) Strongly Disagree - (7) Strongly Agree

I get the group to work together for the same goal (1) Strongly Disagree - (7) Strongly Agree

I develop a team attitude and spirit among my employees (1) Strongly Disagree - (7) Strongly Agree

I show that I expect a lot from my employees (1) Strongly Disagree - (7) Strongly Agree

I insist on only the best performance (1) Strongly Disagree - (7) Strongly Agree

I will not settle for second best (1) Strongly Disagree - (7) Strongly Agree

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement

carefully. Indicate how you feel about each statement.

Circle the “1” if you Very Strongly Disagree

Circle the “2” if you Strongly Disagree

Circle the “3” if you Mildly Disagree

Circle the “4” if you are Neutral

Circle the “5” if you Mildly Agree

Circle the “6” if you Strongly Agree

Circle the “7” if you Very Strongly Agree

1. There is a special person who is around when I am in need.

2. There is a special person with whom I can share joys and sorrows.

3. My family really tries to help me.

4. I get the emotional help & support I need from my family.

5. I have a special person who is a real source of comfort to me.

6. My friends really try to help me.

7. I can count on my friends when things go wrong.

8. I can talk about my problems with my family.

9. I have friends with whom I can share my joys and sorrows.

10. There is a special person in my life who cares about my feelings.

11. My family is willing to help me make decisions.

12. I can talk about my problems with my friends.

Social Identity

I identify with my organisation

(1) Strongly Disagree - (7) Strongly Agree

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4= Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4-item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.

	JOB SATISFACTION SCALE Paul E. Spector Department of Psychology University of South Florida Copyright Paul E. Spector 1994, All rights reserved.	
	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	Disagree very much / Disagree moderately / Disagree slightly / Agree slightly / Agree moderately / Agree very much
1	I feel I am being paid a fair amount for the work I do.	1 2 3 4 5 6
2	There is really too little chance for promotion on my job.	1 2 3 4 5 6
3	My supervisor is quite competent in doing his/her job.	1 2 3 4 5 6
4	I am not satisfied with the benefits I receive.	1 2 3 4 5 6
5	When I do a good job, I receive the recognition for it that I should receive.	1 2 3 4 5 6
6	Many of our rules and procedures make doing a good job difficult.	1 2 3 4 5 6
7	I like the people I work with.	1 2 3 4 5 6
8	I sometimes feel my job is meaningless.	1 2 3 4 5 6
9	Communications seem good within this organization.	1 2 3 4 5 6
10	I do not feel that the work I do is appreciated.	1 2 3 4 5 6

APPENDIX 3: INFORMATION SHEET, CONSENT FORM AND QUESTIONNAIRES USED FOR CHAPTER FOUR

Information Sheet

Dear Participant,

I am a post-graduate student in the Faculty of Health Sciences at Staffordshire University. As part of my research I am interested in looking at the relationship between leadership, well-being and performance.

What does it involve?

Your participation will involve completing a questionnaire regarding perceptions of leadership, well-being. The participation in completing this questionnaire should take around 10 mins. You will also be asked to have a small hair sample taken from the crown of your head. No more than 100 hair strands are taken. The diameter of $1cm^3$ is taken.

Do I have to take part?

Your participant in this study is completely voluntary and you have the right to withdraw at any point without further consequence. You are able to withdraw from when you begin the research until two weeks after completion of the scales. If at any point you would like to withdraw please email the researcher (Stuart Kelly) directly.

It is suggested that you read this information form 24 hours before deciding whether to participate in the study.

What are the benefits of taking part?

Your participation will contribute to a greater understanding of how Leadership can affect and well-being in the workplace.

Are there any negatives from taking part?

It is unlikely that the study will cause risk or harm. However, If you experience any stress related symptoms after completing this study then please contact Mind on: 0300 123 3393/ info@mind.org.uk, or visit their website http://www.mind.org.uk for more information.

What will happen to my results and information?

The data you provide will be kept anonymous at all times and only I and my supervisors (, Dr Jamie Barker, Dr Matthew Slater & Dr Martin Turner) will see your data. All data will be kept secured and stored for up to 10 years in line with the university ethical guidelines.

Who can I contact if I have further questions regarding the study?

If you have any questions regarding the research or your participation in this study, please contact the lead researcher via email: stuart.kelly@research.staffs.ac.uk or Dr Jamie Barker on J.B.Barker@staffs.ac.uk.

Yours Sincerely,

Stuart Kelly, MSc, BSc, MBPsS

Consent Form

Please tick the appropriate boxes.

If you do not agree with any of the statements, unfortunately you are excluded from the study and are not required to complete the rest of the consent form:

I understand my head hair will be cut on the back of my head and that will cause minimal intrusion to the area that is cut	
I am at least 18 years of age	
I am not currently suffering from any mental health conditions related to stress.	
I confirm that I have read and understood the information form for the project	

I understand that my participation is voluntary, and I understand that I may withdraw my consent and discontinue participation at any time: from the study start date to the date the research has been submitted for publication, without further consequences.	

I agree and understand that the data collected for this study will only be seen by the lead researcher and supervisory team. All data will be stored safely on a password-protected computer. Results of the study will be shared through teaching material, research papers and presentations at conferences. Individual results will not be shared with your employers without permission	
I agree to take part in the above study.	

Questionnaires

Identity Leadership Inventory (ILI) Instrument and Scoring Guide (ILI Version 1.0)

Identity Leadership Inventory Leader Form (ILI Version 1.0)

Guidelines: In what follows, 'the group' or 'this group' refers to the group of people that you have responsibility for (e.g., it may be a particular group, a team, a department, a branch, or an organization).

Instructions: Please judge to what extent you engage in the various behaviors and activities listed by selecting the corresponding number using the following scale.

1) I embody what the group stands for.
2) I am representative of members of the group.
3) I am a model member of the group.
4) I exemplify what it means to be a member of the group.
5) I promote the interests of members of the group.
6) I act as a champion for the group.
7) I stand up for the group.
8) When I act, I have the group's interests at heart.
9) I make people feel as if they are part of the same group.
10) I create a sense of cohesion within the group.
11) I develop an understanding of what it means to be a member of the group.
12) I shape members' perceptions of the group's values and ideals.
13) I devise activities that bring the group together.
14) I arrange events that help the group function effectively.
15) I create structures that are useful for group members.

Identity Leadership Inventory Scoring Key (ILI Version 1.0)

Scoring instructions: The ILI scores can be calculated by summing the items and dividing the resulting total score by the number of items that comprise each dimension. The dimensions identity prototypicality (items 1, 2, 3, and 4), advancement (items 5, 6, 7, and 8), and entrepreneurship (items 9, 10, 11, and 12) consist of four items each and identity impresarioship (items 13, 14, and 15) consists of three items.

Identity Prototypicality: Identity Advancement: Identity Entrepreneurship: Identity Impresarioship:

Total / 4 = ____ Total / 4 = ____ Total / 4 = ____ Total / 3 = ____

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Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement

carefully. Indicate how you feel about each statement.

Circle the “1” if you Very Strongly Disagree

Circle the “2” if you Strongly Disagree

Circle the “3” if you Mildly Disagree

Circle the “4” if you are Neutral

Circle the “5” if you Mildly Agree

Circle the “6” if you Strongly Agree

Circle the “7” if you Very Strongly Agree

1. There is a special person who is around when I am in need.

2. There is a special person with whom I can share joys and sorrows.

3. My family really tries to help me.

4. I get the emotional help & support I need from my family.

5. I have a special person who is a real source of comfort to me.

6. My friends really try to help me.

7. I can count on my friends when things go wrong.

8. I can talk about my problems with my family.

9. I have friends with whom I can share my joys and sorrows.

10. There is a special person in my life who cares about my feelings.

11. My family is willing to help me make decisions.

12. I can talk about my problems with my friends.

Social Identity

I identify with my organisation

(1) Strongly Disagree - (7) Strongly Agree

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4= Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4-item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.