
THE UNIVERSITY OF HULL

**AN EMPIRICAL STUDY OF THE ROLE OF EMOTIONAL INTELLIGENCE AND
EFFECTIVE LEADERSHIP IN A WORKPLACE ENVIRONMENT OF CHANGE.**

PhD Thesis

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*Dedicated to my Greatest Source of
Hope and Inspiration:*

My Mother

Mrs Sunanda Mukhuty



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ABSTRACT

This thesis investigates the relationship between emotional intelligence (EI), leadership styles and outcomes of leadership, within the workplace environment of the National Health Service (NHS) in the UK; which is endemic with change (Allen, 2009; Iles & Cranfield, 2004). The broad question posited is: Within the context of change, what is the nature of the association between EI, leadership styles and leadership outcomes, from the perspective of both leaders and their followers?

There is a dearth of published research on EI and leadership within the context of change which makes this study particularly timely. The study employs two different models of EI that have evolved from ‘ability-based’ (Palmer & Stough, 2001; Mayer & Salovey, 1997) and ‘personality-based’ (Bar-On, 1997; Higgs & Dulewicz, 2002) theoretical perspectives. This is the first substantive study to have embraced both models and the intention here was to identify similarities and differences between the two perspectives in the context of organisational change leadership.

Although there is extensive research on leadership, there still exists an acute need for EI and leadership research based on follower perspectives (Lindebaum & Cartwright, 2010; Notgrass, 2010). This study addresses this gap by investigating both leader self-perceptions and follower-perceptions of their leaders. This study has been conducted in *two phases*. *Phase 1* focuses on leader self-perceptions. *Phase 2* focuses on the combination of leader self-perceptions and follower-perceptions of their leaders.

In *Phase 1*, this thesis postulates that within dynamic environments such as the NHS, different types of linkages can be argued between EI and the different leadership styles (Transformational Leadership, Transactional Leadership and Laissez Leadership) while suggesting that EI will predict Transformational Leadership. Furthermore, this thesis postulates that EI and Transformational Leadership will have a positive impact on leadership outcomes.

In *Phase 2*, this thesis considers both leader and follower perspectives and identifies leaders who overestimate, underestimate or are in-agreement with followers, in evaluating their own Transformational Leadership capabilities. Based on this, the leaders are classified into self-other-agreement categories of overestimators, underestimators, in-agreement/good and in-agreement/poor leaders. Thereafter, this thesis postulates varying levels of leader EI and Outcomes of Leadership (depending

upon their self-other-agreement categories) as adjudged by their followers. Similar differences across the self-other-agreement categories of the leaders are predicted in terms of the linkage between EI and Transformational Leadership as perceived by the followers.

The ontology of this research is realist and the epistemology is positivist (Burrell & Morgan, 1979). Data has been collected in *two phases* - from leaders in the NHS and then their reporting staff. *Phase 1* target population was identified as NHS staff in leadership positions involved in implementing change management initiatives. *Phase 2*, target population was identified as the direct reports of phase 1 participants. Phase 1 entailed purposive judgment sampling followed by random sampling. Phase 2 adopted convenience sampling.

Both phases were completed through surveys. In *phase 1*, leaders completed a self-report of the Multifactor Leadership Questionnaire, the Swinburne University Emotional Intelligence Test (SUEIT) and the Higgs & Dulewicz Emotional Intelligence Questionnaire (EIQ). The Marlowe-Crowne Social Desirability Scale has been employed to check for possible response bias. Self developed research items were employed to obtain information regarding the extent and nature of the respondents' involvement with change. Leaders, who consented to participate in phase 2, identified 3 to 5 reporting staff for participation. In *phase 2*, reporting staff completed rater-forms of the Multifactor Leadership Questionnaire and the EI 360 degree questionnaires. A number of qualitative interviews have been conducted with leaders to obtain contextual data regarding the nature of the changes, impacting upon the lives of NHS staff.

Phase 1 findings based on self-ratings of leaders indicated a strong positive relationship between EI and Transformational Leadership, and between EI and one factor of Transactional Leadership (contingent reward). Contrary to the hypothesis, a negative relationship was found between EI and Laissez Faire Leadership. Regression analysis revealed that both the EI models significantly predicted Transformational Leadership. Furthermore, both EI and Transformational Leadership demonstrated a strong positive relation with Outcomes of Leadership. This study also reports higher Transformational Leadership scores for females and higher EI scores for females according to one of the Swinburne University EI model. Supplementary findings showed that; while predicting Transformational Leadership, the Higgs and Dulewicz EI model had incremental predictive validity over the Swinburne University EI model.

Phase 2 findings based on follower perceptions confirmed the postulation that overestimators demonstrate lower EI and Outcomes of Leadership than other leader categories. Underestimators were perceived as manifesting higher EI and higher Outcomes of Leadership.

The link between leader self-ratings of EI and follower-ratings of their leaders' Transformational Leadership across the self-other-agreement categories was also examined. Findings supported arguments that EI and Transformational Leadership will be significantly associated for overestimators but not for underestimators. Some contradictory results were generated for the in-agreement/good/poor categories in terms of EI and Transformational Leadership correlations. These contradictory findings may be attributable to the difference in the factorial constitution and psychometric properties of the two EI models. More research is also recommended on the in-agreement sub-categorisation of focal leaders as good/poor.

This study provides empirical evidence suggesting that EI predicts Transformational Leadership, effective in the context of change. EI also positively correlated with aspects of Transactional Leadership, helpful in successfully leading change. Therefore, investing in training and development of leaders' EI has the strong potential improve the ability of change leaders.

Underestimators were rated by followers as the highest on EI and Outcomes of Leadership, while overestimators were adjudged as the lowest on EI and Outcomes of Leadership. Therefore, underestimating leaders are arguably most suited to effectively lead dynamic change, as in the NHS. Female leaders manifested higher Transformational Leadership and also higher EI on one of the EI models. This provides some justification to enhance leadership responsibilities of women within transformational environments like the NHS.

The clear indication that high EI predicts Transformational Leadership and high EI relates to lower Laissez-Faire Leadership can have recruitment and selection implications favouring the appointment of individuals with high EI in the NHS facing endemic change. However, there is a need to exercise caution and not simply use EI measures alone for placements and recruitment/selection. Nonetheless these results and the measures of EI and leadership could be beneficial in self development, career counselling and other social contexts in the National Health Services.

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LIST OF ABBREVIATIONS

List of Key Abbreviations

- EI – Emotional Intelligence
- EIQ – Emotional Intelligence Questionnaire
- FRL – Full Range Leadership
- FRLM – Full Range Leadership Model
- LF – Laissez-Faire
- LFL – Laissez-Faire Leadership
- NHS – National Health Service
- OL – Outcomes of Leadership
- SOA – Self-Other Agreement
- SUEIT – Swinburne University Emotional Intelligence Test
- TL – Transformational Leadership
- TrL – Transactional Leadership

List of Other Abbreviations

- ANOVA – Analysis of Variance
- APA – American Psychological Association
- ACT – Acute Care Trust
- CEO – Chief Executive Officer
- CHAI – Commission for Health Audit and Inspection
- CHI – Commission for Health Improvement
- CLC – Change Leadership Competency
- CLCQ – Change Leadership Competency Questionnaire

COREC – Committee of Research Ethics Council

DoH – Department of Health

ECI – Emotional Competencies Inventory

EI – Emotional Intelligence

EQ – Emotional Quotient

EQ-i – Emotional Quotient Inventory

EIQ – Emotional Intelligence Questionnaire

FRLM – Full Range Leadership Model

GP – General Physician

HEIL – High Emotional Intelligence Leaders

HEIL_{SUEIT} – High Emotional Intelligence Leaders as measured by SUEIT

HEIL_{EIQ} - High Emotional Intelligence Leaders as measured by EIQ

HR – Human Resources

HRM – Human Resources Management

IAG – In-Agreement/Good

IAP – In-Agreement/Poor

IQ – Intelligence Quotient

KSF – Knowledge and Skills Framework

L&D – Learning and Development

LEIL – Low Emotional Intelligence Leaders

LEIL_{SUEIT} – Low Emotional Intelligence Leaders as measured by SUEIT

LEIL_{EIQ} – Low Emotional Intelligence Leaders as measured by EIQ

LFL – Laissez Faire Leadership

LF – Laissez Faire

MANOVA – Multiple Analysis of Variance

MBE-P – Management-By-Exception - Passive

MBTI – Myers-Briggs Type Indicator

MCSDS – Marlowe Crowne Social Desirability Scale

MSCEIT – Mayer Salovey Caruso Emotional Intelligence Test

MEIL – Medium Emotional Intelligence Leaders

MEIL_{SUEIT} – Medium Emotional Intelligence Leaders as measured by SUEIT

MEIL_{EIQ} – Medium Emotional Intelligence Leaders as measured by EIQ

MEIS – Multifactor Emotional Intelligence Scale

MHT – Mental Health Trust

MLQ – Multifactor Leadership Questionnaire

MP – Member of Parliament

NEO-PI-R – NEO Personality Inventory – Revised

NHS – National Health Service

NHS-IC - National Health Service – Information Centre

O - Overestimators

PCT – Primary Care Trust

PhD – Philosophy of Doctorate

PIL – Purpose in Life

SD – Social Desirability

SDB – Social Desirability Bias

SHA – Strategic Health Authority

SOA – Self Other Agreement

SPSS – Statistical Package for the Social Sciences

SREIT – Self Report Emotional Intelligence Test

SUEIT – Swinburne University Emotional Intelligence Test

TL – Transformational Leadership

TMMS – Trait Meta Mood Scale

TrL – Transactional Leadership

U – Underestimators

UK – United Kingdom

USA – United States of America

WEIP – Work Emotional Intelligence Profile

WGCTA – Watson Glaser Critical Thinking Appraisal

WLEIS – Wong and Law Emotional Intelligence Scale

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION OF TOPIC AND RESEARCH QUESTION

This thesis investigates the relationship between emotional intelligence (EI), leadership styles and leadership outcomes, within the workplace environment of the NHS which is endemic with change (Iles & Cranfield, 2004; Iles & Sutherland, 2001; Wilkin et al., 2001; Allen, 2009). Change epitomises and characterises the challenge of present day organisations catalysed by economic, political, climactic, ethical and technological dynamism. Hence at the level of humanistic interactions in organisations, it has become imperative to identify and enhance antecedents of effective change leadership and leadership outcomes to continue functioning productively in highly uncertain and ambivalent environments. At the level of the human psyche this study argues that EI and certain leadership styles are conducive to effective outcomes and follower receptiveness in change-ridden organisations. The NHS is one such organisation dominated by rampant transformation, flux and uncertainty. Hence, this thesis examines EI, leadership styles and leadership outcomes from the perspective of both leaders and followers within the NHS with a view to primarily contributing to the field of effectively leading change.

EI encompasses the ability and skills to perceive, understand and be aware of one's own and others emotions; and thereafter utilise this to channel one's thoughts and actions towards nurturing harmonious, productive, entrepreneurial work environments (Mayer & Salovey, 1997; Baron, 1997; Goleman, 1997). In this study, leadership styles refer to Bass & Avolio's (1994) Full Range Leadership Model (FRL) comprising Transformational Leadership (TL), transactional leadership (TrL) and laissez-faire leadership (LFL). Special emphasis is being laid on studying TL which is visionary and welfare oriented; arguably highly conducive to and effective in change environments (Caldwell, 2003; Brown, 1993). Yet this thesis acknowledges the premise that an individual leader generally displays a range of leadership behaviours encompassing the FRL model (Bass & Steidlmeier, 1999; Vera & Crossan, 2004), therefore all leadership styles in this model has been studied in this thesis. The NHS is perpetually undergoing dynamic transformations as

reflected in their Agenda for Change (DoH, 2005; DoH, 2004), Knowledge Skills Framework (DoH, 2004a), Trust Mergers (Chapter 2); the Health and Social Care Bill 2011 (DoH, 2011; DoH, 2012), Primary Care Trust (PCT) abolition (DoH, 2011), establishment of Foundation Trust Status (DoH, 2011a; 2011b); reorienting powers of Foundation Trusts (DoH, 2012), establishing Clinically led Commissioning (DoH, 2011c) and so on.

Therefore this thesis postulates that within dynamic environments like the NHS, different types of linkages can be argued between EI and the different leadership styles encompassed in the FRL model (TL, TrL and LFL) while suggesting a predictive relationship between EI and TL (Mandell & Pherwani, 2003) with EI as the antecedent. Furthermore, this thesis postulates that EI and TL will have a positive impact on outcomes of leadership (OL). Moreover this thesis considers leader and follower perspectives in conjunction, in order to identify leaders who overestimate, underestimate or are in-agreement with followers in evaluating their own TL capabilities. Based on this, the leaders are classified into self-other-agreement (SOA) categories of overestimators, underestimators and in-agreement leaders. Thereafter, this thesis postulates varying levels leader EI and OL (depending upon their SOA categories) as adjudged by their followers. Similar differences across the SOA categories of the leaders are predicted in terms of the linkage between EI and TL as perceived by the followers. EI has been studied employing two distinct models of EI thereby simultaneously acknowledging the apparent dichotomy between various EI models manifested in the form of being 'ability-based' (Mayer & Salovey, 1997; Palmer & Stough, 2001) and 'personality-based' (Bar-On, 1997; Higgs & Dulewicz, 2002). Therefore the possible difference in the nature of association between different EI models and the leadership styles has been examined.

Hence, the broad question for this thesis is: Within the context of change, what is the nature of the association between EI, leadership styles (especially TL) and leadership outcomes, from the perspective of both leaders and followers?

1.2 NEED AND IMPORTANCE OF THIS STUDY

Change is a necessary prerequisite to maintaining competitive advantage and ensuring organisational survival. Currently within the public sector, change is endemic, in order to adapt to changing and increasing expectations in the light of social, political and technological changes. TL, which sits within the FRL model, is considered to be an effective leadership model in change environments (Tichy & Devanna, 1990). This thesis contends that being emotionally intelligent can effectively equip leaders in change implementation. It is suggested that EI can play a fundamental part in training, development, recruitment and selection.

This is particularly important in an organisation such as the NHS where leading change initiatives have become a constant and perpetual job feature for managers and recruitment and selection issues continue to affect ideal provision of services. It is arguable that both TL and EI demonstrate significant potential as tools that can aid the achievement of the NHS objectives underpinned by the four pillars of ‘making the NHS a model employer, ensuring the NHS provides a model career through offering a skills escalator, improving staff morale and building people management skills’ (DoH1, 2004) as emphasised in the DoH document entitled ‘Delivering Human Resources in the NHS Plan’. The staff turnover rates for non-medical staff in the NHS appear to be rather high as per the NHS Information Centre statistics (NHS-IC², 2008; NHS-IC, 2011). Furthermore, the new coalition Government has emphasised the need to ensure continued fitness to practice and maintain professional standards by all NHS healthcare and social care staff (DoH, 2011d). Therefore, arguably investigating whether developing EI and leadership skills of the NHS workforce could yield enhanced outcomes; could be beneficial in achieving the aims of improving the NHS.

Since its inception in the sixties, the NHS has chronicled transformation at different levels of intensity. The NHS has been subject to numerous instances of restructuring, creation of new units/departments, mergers, abolition of trusts, radicalisation of

¹ ‘DoH’ stands for the Department of Health.

² NHS-IC stands for National Health Service – Information Centre

service provision, tightening of budgets which have serious implications on the daily delivery of business. Recent reforms entail abolition of PCTs, exposing the NHS to private provision and introducing competition within the NHS (DoH, 2011; DoH, 2012). Currently redundancies, commercialising services, tightening of budgets, introduction of pay freezes, merging of trusts are a key feature in the NHS environment. This can make the day-to-day business delivery in an environment of uncertainty, rather transitional and challenging.

Therefore, a study that investigates the behavioural factors that can enhance and aid the leadership within a transitional environment of flux and dynamism is currently extremely relevant. There is a need to study antecedents of change leadership. There is a dearth of published research on EI and leadership within an explicit context of change. Therefore this study on EI and the FRL model in the change context of the NHS is extremely pertinent. Furthermore, there is a need for studies using more than one EI model simultaneously with the same data-set. This is because the literature on EI is divided into two distinct camps and no research till date has shed light on the whether there is a difference in the nature of impact the different models of EI have on change leadership. This information could facilitate tailored training and development of staff in EI with a view to fostering desirable leadership styles and outcomes within dynamic environments. Most EI and leadership studies have been based on the emotional quotient inventory (Bar-on, 1997). No published research has employed the two models employed here simultaneously in any other study with a view to identifying the nature of similarities or differences between distinct EI models and change leadership. Although the arena of leadership is awash with research and journal articles, yet there is an acute need for EI and leadership research based on follower perspectives (Lindebaum & Cartwright, 2010; Notgrass, 2010). This study addresses this gap and studies the relationship between leader EI and follower ratings of leader TL. This thesis also links EI and TL ratings to leadership outcomes including leadership effectiveness from the perspective of both leaders and followers. Thereby this study significantly contributes to the understanding of how EI can inform change leadership and effectiveness within a work environment, endemic with change.

1.3. RESEARCH CONTRIBUTION

The concept of leadership and TL in particular has been highly researched. Yet some authors believe that there is a lack of knowledge regarding the features and criteria of effective leadership (Higgs, 2003; Higgs & Rowland, 2001; Goffee & Jones, 2000; Kets de Vries, 1993). As argued earlier, organisational change is a phenomenon increasingly being recognised as a necessity for competitive advantage and organisational survival. TL is considered highly appropriate in changing environments (Bass, 1998). However, EI is a concept, which has come into existence only in 1990 (Salovey & Mayer, 1990) and studies on EI in the workplace have gained momentum only after 1996 (Goleman, 1996). Authors indicate the strong need to conduct EI research within organisational and work contexts (Harper & Jones-Schenk, 2012; Manna & Smith, 2004; Dulewicz & Higgs, 1999). While research on EI per se has increased exponentially in the last decade, research on EI in the explicit context of change is still in its nascent stages. Austin and Currie (2003) outline how followers' emotions emerge significantly and could play a major role in times of change. In this context, this research contends that EI could pose as a major mediating factor. However, scholarly research evaluating EI in change contexts has been sporadic and is also in its very nascent stages (Ferres & Connell, 2004; Higgs & Rowland, 2002). Theoretically it is arguable that EI is extensively associated with TL (Megerian & Sosik, 1996; Sivanathan & Fekken, 2002). Nevertheless, research on this aspect of EI and TL is still in its infancy. Dvir, Kass and Shamir (2004) point out that "new leadership theories" (Bryman, 1992) emphasize the emotional attachment of followers to the leader and organization (George, 2000; Koh et al, 1995). Nonetheless, there has been little empirical research focusing on the relationships between transformational, charismatic, or visionary leadership and followers' emotions in general (see Bono and Ilies (2002) and Lewis (2000) for exceptions" (Dvir, Kass & Shamir, 2004). Out of the studies, which have been performed to date, the results obtained are contradictory and inconclusive. There is a lack of consensus on issues pertaining to the relation between EI and TL within change frameworks. Further exploration and explanation is required regarding the nature of any potential association between EI and TL in the practical world of change oriented business organisations (Ferres & Connell, 2004). This study will hopefully generate new

knowledge and give rise to new theoretical and practical implications by integrating two different bodies of theory and literature in organisational behaviour within transformation frameworks. The development of this kind of a connected branch of knowledge can assist organisations in the better selection of leaders who are transformational as well as emotionally intelligent assuming that is in fact beneficial (Megerian & Sosik, 1996). Additionally gender differences in TL and EI implications within organisational change environments will also be analysed, very little of which has been conducted till date in connection with EI, that too with inconclusive results.

Most of the research on EI and leadership to date has been based on self-ratings of participants. There is a major dearth of studies in leadership based on follower perceptions and follower-roles in the leadership phenomenon (Notgrass, 2010). Leadership as a process is redundant without followers, therefore accounting for follower perceptions of their leaders is arguably imperative to present a reasonable analysis of leadership, its antecedents and its effectiveness. This research study has attempted to address this void. This has been done by comparing leader and follower-ratings of the leaders' TL and classifying them into self-other-agreement (SOA) categories. This is crucial, as most of the few other multirater studies on EI and TL have correlated aggregated EI and TL ratings by leaders and followers; but, have not fine-tuned the analysis by classifying the leaders into SOA categories which Thereafter leader EI and OL has been evaluated based on follower-ratings of the leaders. Furthermore, the nature of association between EI and TL has been analysed employing leader as well as follower-ratings. This study has therefore provided a unique perspective on the nature of EI and change leadership in SOA categorisations, thereby fine-tuning the contribution made by taking into account follower perspectives on their leaders.

1.4 RESEARCH BACKGROUND

The NHS is constantly embroiled in continuous change processes and has evolved into a highly dynamic, even turbulent environment. In order to improve its working and thereby improve the services provided to the community, the NHS is perpetually striving for improvement and hence is constantly involved in the incorporation, implementation and management of continuous innovative and transformational processes.

Introducing transformational processes is not necessarily welcomed and embraced at all levels. Change within organisations can lead to the strong emergence of feelings of uncertainty, insecurity, anxiety as well as resentment (NHS Institute for Innovation and Improvement³, 2005; Austin & Currie, 2003). This in turn leads to change processes being met with resistance and negative emotions and attitudes. The vision from the top levels need to perpetuate through to all levels and the organisation needs to solicit the allegiance of all members in order to successfully attain the organisations' change goals.

People's attitudes have been changing. They prioritise employee commitment and deriving the best from the employees (Higgs & Rowland, 2001; Higgs, 2003; Goffee & Jones, 2000; Fineman, 1997). Nuttall (2004) emphasises the influence of human psychology and interpersonal relationships in organisations. He recognises the importance and relevance of novel concepts of EI and follower oriented leadership (Nuttall, 2004). Since the 1990's, market fluctuations too are affected more by intangible factors like quality and leadership of business institutions; rather than organisational earnings and performance (Higgs, 2003; Ulrich et al., 1999; Ulrich & Lake, 1990). Since 2008, the worldwide recession has had an immense and unprecedented impact on organisations globally and the NHS has been no exception. It has come under major attack in terms or restructuring, tightening of budgets, job redundancies, cultural change and so on.

³ 'Improvement Leaders Guide - Managing the Human Dimensions of change: NHS Institute for Innovation and Improvement' (2005).

Hence there is a significant need for leaders with compatible styles, personalities, capabilities and intelligence to invoke necessary transformations. Simultaneously, there is a raise in focus on embedded emotional aspects in organisations and reaping the benefits of emotionally healthy organisations. Higgs (2003) highlights that, “Fineman (1997) and Goffee and Jones (2001) identify that the influence of Weberian rationality on organisation has begun to wane and this decline is being accomplished by a recognition of emotional realities” (Higgs, 2003: 277). Gardner and Ash (2003) highlight the need to develop new theories and models to assist professionals in comprehending the complex organisational change dynamics. Highlighting TL and EI underpinnings can meet this need and create the competitive edge necessary to exploit volatile workplace environments and networks.

Appropriate leadership has been argued to be conducive to achieving such change processes. Leadership refers to a reciprocal process entailing at least one person who leads or guides and another person who is led or guided. Leaders ‘influence’ followers to accomplish predetermined goals (Northouse, 2003; Yukl, 1998). Simultaneously, in order to address the emergence of anti-change efforts, the role of EI is arguably promising. The EI construct refers to the ability of a person to understand and perceive one’s own and others’ emotions and then; channel, regulate and manage one’s own and others emotions so that optimum results may be achieved (Bar-On, 1997; Goleman, 1996). It entails the intelligent use of one’s emotions (Weisinger, 1998). EI “involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings... the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer & Salovey, 1997).

While considering the appropriate leadership within the context of changing organisational environments, TL has been adjudged by researchers as the leadership style most effective in initiating, incorporating and managing change (Tucker & Russell, 2004; Eisenbach, Watson & Pillai, 1999; Pawar and Eastman, 1997; Bass, 1995). This leadership style has also been argued to effectively lead successful change processes. This thesis broadly contends that emotionally intelligent leaders will be more prone to displaying TL style behaviours within change environments

and a higher level of EI and TL in turn will enhance productive outcomes of leadership from both the leaders' and the followers' perspectives.

Introducing and implementing change initiatives within large organisations like the NHS can lead to highly emotion-laden reactions and repercussions. Change processes can appear threatening and lead to highly resistant reception invoked through the central agent of fear of loss, uncertainty, insecurity and so on (Brown, 1993; Bridges, 1991). People's emotions play a pivotal role in the effectiveness of workplace change implementation (Zorn, 2002). Therefore it is imperative to invoke change at the level of the person's psychology (Brown, 1993). This is where the influence of appropriate change leadership and EI can be significantly beneficial.

From within the full range leadership model, TL has emerged as the leadership style, capable of dealing with change most effectively (Brown, 1993). TL displays high efficiency and effectiveness in changing scenarios, which involve non-routinised activities and adaptation (Eisenbach, Watson & Pillai, 1999; Bass, 1995; Pawar and Eastman, 1997). TL is perceived to induce and inculcate change and movement in business institutions. TL focuses on "change, progress and development" (Tucker & Russell, 2004: 105) as well as enthusing and aligning members of organisations with the new vision, clear goal and strategies of organisations (Bennis & Nanus, 1997). Simultaneously, the contingent reward component of transactional leadership (another factor of the full range leadership model) has shown evidences of loading on TL and it has been indicated that TL can build on contingent reward (Bycio et al., 1995; Carless, 1998). By virtue of indications of this association, to a certain extent transactional leadership can also be effective in dynamic environments. Thus the influence of the FRL model is significant in changing circumstances.

More knowledge is required regarding the social and emotional contexts of transformation (Walsh, 1995). The various facets of EI can assist in change and social adjustment in organisations (Huy, 1999). EI can enable people to support each other and adapt to changing circumstances (Welch, 2003) by being sensitive to transformation but not resisting it. An emotionally intelligent person (leader) would have a unique cutting edge in being able to successfully implement and achieve change in organisations. (George, 2000).

Theoretically EI also appears as a significant component of contemporary leadership for effective facilitation of change (Ferres and Connell, 2004, Higgs & Rowland, 2002). Logically an overlap between aspects of TL and EI is also arguable (Sosik & Megerian, 1999) driven mainly by the personal, emotional and social skills of the leader (Bass & Avolio, 1994) and the personal, social and emotional elements constituting EI (Sivanathan and Fekken, 2002). Preliminary studies tend to support this postulation (Mandell & Pherwani, 2003).

Viewing these postulations from the NHS perspective, it would be arguably valuable to investigate the association between EI and the FRL model within the change oriented NHS working environment. Hence results of this study, investigating the interaction and impact EI on leadership styles and outcomes of leadership within the transformational NHS environment; is expected to have advantageous implications for HRM practices involving appraisal, training, development, recruitment, selection and achieving the NHS human resource objectives underpinned by the four pillars of the NHS plan (2004) mainly ‘making the NHS a model employer, ensuring the NHS provides a model career through offering a skills escalator, improving staff morale and building people management skills’ (Human Resources in the NHS Plan, DoH, 2004) and professed aims of the recent health reform initiatives to improve quality, effectiveness and efficiency (Walshe, 2012; Walshe & Ham, 2011).

1.5 RESEARCH OBJECTIVES

Under the spectrum of investigating the nature of the association between EI and the FRL Model, especially TL in a change environment; this research has addressed the following key objectives.

The first phase of this research which is essentially based on leader self-ratings has addressed the following objectives:

- Investigating the nature of association between EI and TL for the purpose of identifying whether EI is a significant antecedent of leadership styles effective in change environments.

- Investigating the nature of association between EI and TrL as the most successful leaders have been argued to manifest a range of both TL and TrL behaviours. Therefore, this study attempts to identify whether EI has any impact on TrL.
- Investigating the nature of association between EI and LFL as LFL is encompassed in the FRL model; however it is a form of non-leadership and might be perceived as undesirable. Therefore, an enquiry is being made to identify whether EI might affect LFL in a change environment.
- Examining the nature of association between EI and leadership outcomes to ascertain whether EI development in leaders may directly impact on perceptions of effectiveness.
- Examining the nature of association between TL and leadership outcomes to ascertain the extent to which TL influences the success of the leadership impact.

The second phase of this research essentially draws upon follower-ratings of leaders after they have been classified into SOA categories based on leader and follower-ratings of the leaders TL. These objectives are presented below:

- Understanding which SOA category of leaders is considered to have the highest and lowest EI scores.
- Comprehending the which SOA category of leaders is perceived as most effective by followers in terms of leadership outcomes
- Investigating the nature of association between leader perceptions of their EI and follower perceptions of the leaders TL across the SOA categories.

Supplementary objectives of this thesis are based on leader self-ratings and include the following:

- Understanding gender differences in EI
- Understanding gender differences in TL
- Nature of association between two separate EI models
- Difference in how distinct EI models impact TL behaviours

1.6 OVERVIEW OF METHODOLOGY

This research aligns with the positivist philosophical paradigm adopting a hypothetico-deductive approach perceiving reality as a concrete process (Burrell & Morgan, 1979). The ontology of this research is essentially realist and the epistemology is positivist.

To gain access to data sites, this research proposal was reviewed by the NHS Research Ethics Committee (entailing submission of necessary documents with protocol and being interviewed by the committee). Subsequently research governance approval was sought and received from the individual research sites. Only after this, data could be collected. Research sites include 2 acute trusts, 4 primary care trusts and 1 mental health hospital in the North.

Data has been collected in two phases - from leaders in the NHS and then their reporting staff. Phase 1 target population was identified as NHS staff in managerial positions (satisfying a leadership role and having clear lines of responsibility) involved in change management and implementation. Phase 2, target population was identified as the direct reports of phase 1 participants. This was achieved through purposive judgment sampling, facilitating the satisfaction of these data prerequisites.

Both phases were completed through surveys. Demographic information regarding age, gender, education, post, number of reporting staff, income was solicited in addition to study questions. Leaders completed a self-report of the Multifactor Leadership Questionnaire (Avolio & Bass, 2004) the Emotional Intelligence Questionnaire (Higgs & Dulewicz, 2002) and the Swinburne University Emotional Intelligence Test (Palmer & Stough, 2002). The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) has been employed to account for possible response bias. Self developed research items were employed to obtain information regarding the extent and nature of the respondents' involvement with change. Leaders, who consented to participate in phase 2, identified 3 to 5 reporting staff for participation. In phase 2, reporting staff completed rater-forms of the MLQ and the EI 360 degree questionnaires. A number of qualitative interviews have been

conducted with leaders to obtain contextual data regarding the nature of the changes, impacting upon the lives of NHS staff.

All responses were anonymised and kept strictly confidential. Leaders were offered feedback on EI. With a response rate of 17.7%, 309 usable responses were received from phase 1 and with a response rate of 45.27%, 220 usable responses were received from phase 2. Six face to face interviews were conducted with senior managers from the different trusts. The survey questionnaires have been analysed statistically and qualitative interviews have been analysed to identify common themes highlighted.

1.7 ORGANISATION OF THIS THESIS

This first chapter has introduced the broad question of this thesis, context and need for this study. The research scenario of the NHS is introduced here along with an overview of the theoretical framework and methodological framework of this study. This section also lays out the structure in which this thesis has been organised.

The second chapter provides background information on the changes that the NHS underwent during the data collection for this study. This chapter evidences the existence of monumental change pertinent while EI and change leadership was being examined for this study.

The third, fourth and fifth chapters have been devoted to reviewing the relevant literature. Chapter three examines the construct of EI, the argument that EI is a unique form of intelligence and the various streams and models of EI. The scientific roots of EI have been traced followed by investigating its link with other related constructs. The different measures of EI have been evaluated in terms of reliability and validity. This is followed by an evaluation of EI and its potential role in change and work organisations. Chapter four reviews the literature on leadership conducive to change and its antecedents. It evaluates the FRL model including its key components of TL, TrL and LFL. It presents evidence indicating the role and effectiveness of TL in organisational change. Chapter five evaluates and presents a

theoretical argument linking EI, leadership and change. This chapter commences with a study of how EI could be related to different leadership models through individual components. Thereafter, the potential and preliminary evidence linking EI and TL has been evaluated. This evaluation reviews the association between EI and TL through the lens of individual EI components as well as through the lens of individual TL components. Finally, arguments and results apparently contradicting a linkage between EI and TL, has been reviewed.

The sixth chapter presents the research questions and hypothesis for this study which has been conducted in two phases. The hypotheses for phase 1 and the related justifications pertained to leader self-ratings indicating the relationship between EI and the FRL model, EI and OL, TL and OL, as well as gender differences for EI and TL. The phase 2 hypotheses and their justifications pertain to leader-follower SOA categories on TL. These hypotheses propose comparisons on EI and OL across the SOA categories and the relationship between EI and TL across the SOA categories.

Chapter seven details the methodology and research design of this thesis. It reviews the various research paradigms and argues the justification for choosing a positivist hypothetico-deductive approach; followed by a consideration of ethical issues and thereafter this chapter outlines the study design including data collection/survey methods and data analysis methods chosen for this study.

The results, data analysis and discussion for the first and second phase of this chapter have been presented separately. Chapter eight presents the overall results for leader self-ratings and follower-ratings. Chapter nine focuses on the phase 1 data analysis pertaining to hypotheses dedicated to leader self-ratings. The tenth chapter presents the phase 2 results which relate to aggregated follower-ratings of leaders. Chapter eleven reports the data analysis of the phase 2 hypotheses focusing on the combination of leader and follower-ratings of the leaders. Chapter twelve and thirteen are dedicated to the discussion of leader self-ratings and combined leader-follower-ratings of leaders respectively.

Finally chapter fourteen concludes this research study by summarising an overview of the whole study, evaluating the contribution of this study to the knowledge and

theory, the methodological contribution and contribution to practice made by this research. Furthermore, this chapter separately captures the current relevance of this study to the NHS and other organisations undergoing transformations. Moreover, the strengths of this study has been identified here, followed by an analysis of the limitations of this study along with future research recommendations.

The following chapter presents primary information evidencing and establishing the change context within which this study has been conducted. Subsequent chapters embark on a thorough review of the literature on leadership, with special emphasis on TL and the literature on EI.

CHAPTER 2: THE NHS AND CHANGE

This chapter captures and reviews the evidence of dynamic change and transformation the NHS trusts were undergoing at the time, NHS leaders and followers took part in the fieldwork of this thesis. Rather than detail the NHS changes using secondary data; primary data has been used to obtain a first-hand context of staff perceptions of the changes. Face-to-face qualitative interviews with six key leaders in the various NHS trusts produced rich evidence of the radical NHS changes. Furthermore, survey participants also indicated the nature of changes affecting them through open-ended questions. Names of respondents' interviewed have been altered to maintain anonymity. However, their actual roles have been explained here.

2.1 TYPES OF NHS TRUSTS INCLUDED IN THIS RESEARCH

The research participants belonged to three types of NHS trusts: acute trusts, primary care trusts and mental health trusts. One acute trust was in the process of becoming a Foundation Trust during data collection. These trusts are described below; based on the official NHS website information.

Acute Trusts manage NHS hospitals and ensure they provide quality services while efficiently managing budgets. They are accountable for hospital developments. They may work through health centres, clinics or individuals' homes. Acute trusts employ nurses, doctors, pharmacists, midwives, health visitors, physiotherapists, radiographers, podiatrists, speech and language therapists, counsellors, occupational therapists, psychologists and healthcare scientists, constituting a huge proportion of NHS employees. Non-medical staff include managers, specialists in information technology, engineers, receptionists, porters, cleaners, caterers and domestic and security staff. Some acute trusts function as regional and national centres providing specialised care. Some collaborate with universities to teach medicine and train health professionals (www.nhs.uk).

Primary Care Trusts have been accounting for 80% of the NHS budget. PCTs are local organisations deciphering the community needs and ensuring appropriate health and social care provision. PCTs collaborate with local authorities and other agencies providing health and social care. They ensure necessary local services are provided including hospitals, dentists, opticians, mental health services, NHS walk-in centres, NHS Direct, patient transport (including accident and emergency), screening and pharmacies. They also coordinate the health and social care systems (www.nhs.uk).

Mental Health Trusts make specialist health and social care available for mental health. Services may be supplied through GP practices, primary care practices and specialist care. Mental health services include counselling, other psychological therapies, community and family support and general health screening. These trusts provide psychological therapy and treat patients with severe mental health issues through specialist medical and training care (www.nhs.uk).

Foundation Trusts are a newer type of NHS trust. These are run by local managers, staff and the public. Foundation trusts can independently design services according to local needs. They have more financial and operational autonomy than other trusts. However, they continue to be governed by the NHS inspection systems. (www.nhs.uk).

Although the different NHS trust types have a slightly different focus, all are underpinned by the NHS philosophy, ethos, monitoring, performance and budgetary systems. Data from the different trusts has been established to be homogeneous (Phase 1 results) and therefore considered relevant to all the NHS trusts in this study.

2.2 PARTICIPANTS INTERVIEWED

All six interviewees held leadership positions and were leading and managing the NHS changes. Their job roles are indicated below:

Mike: The Human Resource Director of a large Acute Trust.

John: Head of a large PCT.

Barbara: Associate Director of Human Resources of a PCT (Her title from an erstwhile PCT which had just merged with another. She was waiting to be re-appointed or made redundant in the new organisation.)

Angela: Deputy Head of Learning and Development of a large Acute Trust (In this position for a few days, post restructuring. Previously she was the Corporate Learning Development Manager for 2 years.)

Wendy: Director of Workforce Development in a large PCT. (This PCT had just been created by merging two smaller PCTs. Wendy had worked across both PCTs for 3.5 years.)

Jennifer: Head of Locality Services (PCT). (She was responsible for a range of provider services within the locality.)

The above shows that during these interviews, some participants were transferring between jobs; providing evidence of the state of flux in the NHS during this study.

2.3 THEMES OF CHANGES

Magnitude of Change:

This section highlights NHS staff perceptions regarding the magnitude of the transformations. The interviews and the DoH documentation show that the changes were extremely dynamic and intense.

Participants characterised the changes as follows:

The NHS is in a *huge* amount of change. (Mike)

Some *major* change and this is causing major disruptions in the NHS.

(Angela)

They indicated that change is not new to NHS staff:

Change has been a constant in the NHS for as long as I've been involved.

(John)

Anybody working in the NHS, they're used to change, ... we've changed from acute trust to PCT and even when you were part of the acute trust, you changed, directorates, you were moved around, you had different managers, different white papers have come out, different guidance.. (Wendy).

However, the nature and intensity of the changes that the NHS underwent at the time of this study was of a greater magnitude and impact than before:

This feels very different because we've had *such a combination of changes* all in one time. We've had the merger of the organisation, ...the financial recovery plan on top of that... So *this has felt like a huger change* than people have been used to because it's so *fundamental*. Underpinning this is the feeling that ... Commissioning a Patient-led NHS is going to *fundamentally change* the way people deliver services (Wendy).

So, people have that sense of the organisation that I work for has *gone*. Some of the people that I work for have gone (Wendy).

A strong sense of loss is echoed. Along with the changes in systems, control procedures, budgets, pay, conditions and restructuring; NHS employees appeared to be grappling with social and emotional losses due to the transformations.

...it doesn't feel like there's stability anywhere... it does feel different to other changes. It does feel like fundamentally the NHS is *grinding* and *changing* and we've had changes before but not felt as significant ... this isn't the same as any other change process... (Wendy)

Therefore, the changes were clearly perceived as ‘monumental’ and ‘fundamental’, with far reaching impact and manifestations, unlike any previous NHS change.

Nature of Changes in the NHS

Interviews revealed, *meeting government targets* was a priority for all trusts; encompassing various changes including:

- Agenda for Change
- Pay Modernisation
- New Appraisal System
- Knowledge Skills Framework (KSF)
- Change in Working Conditions
- Commissioning a Patient Led NHS
- New Ways of Working
- Impending Private Sector Competition
- Financial Constraints
- Achieving Foundation Trust Status
- Day-to-day Business Delivery while Implementing Changes

Survey responses also cited the above as major changes affecting staff.

The following sub-sections review some of these key changes.

Agenda for Change and Knowledge Skills Framework

The Agenda for Change was affecting every NHS trust. Almost all interviewees and survey participants cited this as affecting them.

The Agenda for Change aimed at:

Harmonising terms and conditions, equality of pay for all staff, up to director level (Angela).

The new system is... a combined set of *terms and conditions* for all staff other than medical staff. So, everybody refers to the same set called ‘*agenda for change*’ and that covers everything from your *holiday* to your *sickness absence* to how much you get *paid*, *career progression* and to *trade union facilities*, *care relief*, everything... (Mike).

The Agenda for Change is supported by the Knowledge and Skills Framework:

That’s [the Agenda for Change] backed by a *standard way of appraising people* called KSF - *Knowledge and Skills Framework*. In the future ...everybody will have a standardised KSF outline, to say what competencies you need from the job you are doing, everybody will have appraisal using the same standardised documentation, the objectives of the personal log plans will be recorded centrally and we’ll then be able to set up things like educational programmes and staff meetings about need (Mike).

New terms, conditions and contracts were also being developed for medical staff:

For medical staff we have something similar. They’ve now got a standardised *pay scale*, a *standardised contract* and a standardised way of being *appraised*; which is different to the rest... Medical staff feel they need to. Nevertheless, there is a standardised model for appraisal and supervision (Mike).

It appears that not all NHS employees had appraisals previously. The absence of an appraisal scheme hindered pay increments for some employees.

We have a whole new system for people to be appraised and for us to decide how well they are doing and to offer personal and professional development which we call KSF. So, a hell of a lot of change... (Mike).

Moreover, the difference between the erstwhile and new terms, conditions, pay and appraisal systems were quite prominent:

What we've gone from is a ... complex ad hoc, non standardised process whereby a member of staff's *conditions of service, pay and appraisal processes* were really quite ad hoc – to a process where hopefully there's real genuinely straight forward formal process and everybody fits into that... The map of staff management now is very different to what it was 18 months ago (Mike).

Therefore, the Agenda for Change led to changed contracts and working conditions:

We have, like everybody, else changed all the contractual arrangements of our staff, they're all on new pay structures, ... new appraisal structures; which has been a huge deal for everybody (Mike).

Everybody... now has a different contract arrangement than they did 18 months ago ... everybody... is going through some major changes in how they are appraised and assessed, ...everybody... is now having to come to terms with the fact that their services may be outsourced to an independent sector organisation or to private sector organisation depending on the commissioning view of the PCT. ...Big impacts on how people feel about working for a trust... (Mike)

This also led to major change activities in HR departments:

[As an] HR manager, you'll be really bogged down in contract changes, pay modernisation, improving working lives, flexibility for staff, rewriting lots of policies, equal pay claims, - a whole range of stuff ...that's rocking the system, changing the way people work, you'll have dealt with a lot of sickness, absence issues, ...people being unhappy, grievances ... (Mike).

Overall, the Agenda for Change has encompassed a pay modernisation scheme, a new appraisal system, job evaluations, creation of job descriptions and changes in terms and conditions.

Trust Reconfiguration / Mergers, Redeployment and Redundancies

‘*Commissioning a Patient Led NHS*’ entailed a large number of Strategic Health Authorities and Primary Care Trusts being restructured. These had a domino effect on Acute Trusts and their functioning primarily through the PCT reconfigurations.

The initiative of ‘*Commissioning a Patient Led NHS*’ is:

a process by which PCTs would merge, become much more rigorous commissioners, more connected with needs of the population and able to manage budgets across larger geographical areas; and align themselves with local authorities, much closer working with social care, local authorities... (Barbara).

This led to budget cuts and staff redeployment:

We’re not looking at making staff redundant but at redeploying staff which is actually causing a lot of unrest. A lot of the services that have traditionally been delivered in hospital setting – acute setting, are being delivered in the PCT... our services will shrink and become more specialised (Angela).

Angela’s words show the strong impact of budget reductions for PCTs leading to acute trusts having to compromise on resources, staff retention and service delivery.

Other trusts were actively looking at staff redundancies and had declared a number of staff as ‘at risk’ of being made redundant. Processes had been established to assist staff in preparing to find new jobs.

I think its affected different staff at different levels. Obviously directors have been affected by the changes... Staff in the corporate services... will have all

been affected; because they've all been placed at risk of redundancy; due to the merger (Barbara).

Nonetheless, they had not been provided time scales, so in some cases it felt like a never-ending wait while simultaneously they had to deliver the day-to-day demands of the business.

Furthermore, the reconfigurations significantly altered the roles of employees, creating new lines of responsibility:

New accountability lines... I was head of HR for a small PCT ...I had a much smaller area to look after. 2000 staff reported into a director. I had fairly free reign really... I was much more connected to a small board, to a director team.... Now I work to a Head of HR and she reports into a Director of Corporate Services. So, I am now two removed from a director... and I am at risk (Barbara).

Therefore, job insecurity and new lines of responsibility were key change repercussions.

Financial Constraints

The *Agenda for Change* and *Commissioning a Patient Led NHS* coupled with budget reductions created major financial constraints. The complex financial structure and movement of finances within the NHS is elaborated below:

There's now... 'payment by results' and 'national tariffs', so there's kind of regulatory framework around what trusts can actually charge. What it can charge for doing hip-replacement: no longer, is there going to be... huge variations across the country; that it costs £10,000 in one hospital, where another hospital seems to be able to do it for £5,000. Now ...there's this tariff... The hospital gets whatever that agreed tariff is, regardless of what their actual costs are. So, a hospital that's been able to do it for less will end up banking the extra money; hospitals that have been doing it for more are

going to have to find a way of cutting costs somewhere. ...Many different initiatives... playing into each other (Wendy).

The deficit led to major financial activities in PCTs:

...Because of the financial situation, there's a lot of liaison and patient – public consultation – and working with local scrutiny committees – public scrutiny committees (Barbara).

A lot of the work is really with local authorities and scrutiny committees, local MPs etc. keeping people up to speed with what the organisation's doing. So, because we are in dire deficit, a lot of activities, energy is directed into that (Barbara).

Furthermore, financial strains were imposed by the mergers which led to serious resource implications; particularly the perception of overstaffing in certain parts which necessitated job freezes and redundancies.

We've had a large deficit to manage in the region of around 35 million. There are robust financial recovery plans now in place and to manage that within the next financial year and to recover from that deficit. But, that's put particular pressures on the organisation in terms of *resources* (Barbara).

There is a view from the SHA⁴ that we need to reduce our whole time equivalence... There's an assumption that we actually employ more staff than we should; when we've been benchmarked across other organisations... So, we will be looking at natural wastage and freezing posts (Barbara).

Yet another PCT echoed the massive financial changes including managing and delivering services with reduced resources and staff:

⁴ Strategic Health Authority

There's been ... changes ... around how to manage a service with reduced resources ... we've got to take money out of services. The other piece of work...was around how do you deliver a service with reduced resources and how do you change that service to deal with more work at the same time (Jennifer).

So, there were pressures to redesign community services, plan a massive change process and save money. So, it's been a time of change. Massive change! (Jennifer)

The issues are echoed in acute trusts as well:

The big one [*change*] ...is the reconfiguration of the SHA, Primary Care Trusts – our biggest customer ... is the PCT. With the deficit that the PCT has, that's actually meant there's been a cut in our income, again it's not just our trust, it's other trusts that are hit as well. What that's meaning is looking at the way we are delivering services, we're closing wards...

Financial constraints also caused lack of proportionality between increasing workloads and staffing:

All managers will have found lots of change to deal with - lots of unhappy people to try and persuade to move on... not a lot of money to do things and probably a slightly declining number of staff around to help them do it (Mike).

It's an issue of proportionality. Our staff numbers have grown but our activities levels have grown even more. So, in proportion to the amount of activity we do, we've probably seen a decline in the number of staff we've got (Mike).

Therefore, trusts were facing multiple challenges through financial cuts, renewed structures, different and multiple local authorities to liaise with. These in turn, yielded in redeployment, job freezes and redundancies. Furthermore, these led to the

necessity to reorganise the systems and function with reduced resources, which also created disproportionate staffing and workloads.

Unclear Vision and Mission

The radical transformations analysed above appear to have created a gap in the articulation of the vision and mission of the trusts. On being asked whether the vision of the new chief executive officer (who had been in post for a few months) differed from the previous one, Barbara replied:

I don't think we quite know what the vision is yet. That is still evolving
(Barbara).

Understandably the CEO⁵ may not want to institute a new vision without recruiting all the directors; however staff felt like they were working in a visionless vacuum.

Culture Change

Confusion and concerns about the changing culture was another key issue:

Our systems are changing. ...It's like moving to a new organisation ...it's all in a state of flux... That's resulting in people leaving because staff find it hard to keep track of who's doing what and how it's being done and because the *culture isn't in place*...it's developing...people do not know how to react in situations and how much initiative to take... It's the *cultural* issues I think connected with merger (Barbara).

The front-line staff are concerned about the *culture* of the *new* organisation (John).

A dilemma in negotiating the new organisation's culture is evident:

⁵ Chief Executive Officer

There's been huge restructuring, a lot of cultural differences between the two PCTs brought together ... [one trust] was characterised... like a family business, ...lot more informal. [The other trust] was characterised as being very performance driven... Having worked across both of them, neither of those sort of caricatures really told the full story (Wendy).

...So, basically, you had this whole thing about people anticipating ... which organisation's *culture* was going to dominate? I think that inevitably it has ended up feeling as though one organisation has taken over the other organisation, rather than of it being a kind of a complete blending of the two (Wendy).

Doubts were expressed about culture convergence after merging four PCTs:

I think, because we're one organisation, we need to [*systemise and integrate services*]. Because what we need to demonstrate is that our service delivers value for money, that it is equitable across the patch... (Jennifer).

I wonder, in terms of a *culture*, whether you will ever get a uniform culture across what were 4 organisations, I think that'll be very difficult... unless you then get one management structure and you try and influence that culture but I still think there'll always be an element of well we are the old 'this' organisation and you are the old 'that' organisation (Jennifer).

2.4 QUANTITATIVE EVIDENCE OF PARTICIPANTS' INVOLVEMENT IN CHANGES

A key feature of this study is that it has been conducted within a change oriented environment, respondents also indicated the different kind of changes they are affected by within the NHS. All leaders and followers indicated being affected by changes in the NHS.

To strengthen the argument that the NHS leaders participating in this study were affected by and involved in change processes in their respective trusts, follower perceptions on their focal leaders' engagement in transformational processes were sought. The followers answered a rater version of the same 6 involvement in change questions which the leaders had self-rated. The purpose of this was simply to collect corroborative evidence of the leaders' involvement in change at the time of data collection, not to compare leader and follower perceptions.

In addition to the above, leaders and followers were asked to answer six different questions aimed at gauging the leaders' involvement with change within the NHS. These questions were closed-ended and followed the 5 point Likert scale format. For the first five questions, 1 indicated 'little or no involvement' and 5 indicated 'a very high or great deal of involvement'. For the sixth question, answers ranged from 'very low' to 'very high'. Both leader self-ratings and follower-perceptions of their leaders' involvement in changes were obtained. The aim of each of these questions was to:

- Q1 - establish the extent to which the participants' department was involved in change and transformation.
- Q2 – ascertain the degree to which leaders were considered to be involved in the changes and transformations
- Q3 - determine the extent to which the leaders were considered as being instrumental in envisioning and/or developing changes/ transformations for the NHS.
- Q4 – find out the degree to which the leaders were considered instrumental in incorporating/ implementing the changes and transformations.
- Q5 – ascertain how much the leaders were considered as being involved in managing changes and transformations, which have been envisioned/ developed by other people.
- Q6 – discover how successful the leaders were considered, in creating/incorporating and/or managing change in the NHS.

Table 2.1 summarises the specific responses received. It shows that all leaders were involved in change, as per both leader self-ratings and follower-ratings of their

leaders. Table 2.2 summarises the follower responses. This shows that all followers perceived their leader to be actively involved in the change processes to some extent.

Table 2.1 - Leader Self-Ratings of Involvement in Change – Frequencies of Responses

Involvement in Change - NHS						
	Little or No Involvement	Low Involvement	Moderate Involvement	High Involvement	Very High Involvement	N
Question 1	1 (0.3%)	17 (5.5%)	21 (6.8%)	142 (46%)	125 (40.5%)	306
Question 2	5 (1.6%)	25 (8.1%)	27 (8.7%)	123 (39.8%)	126 (40.2%)	306
Question 3	15 (4.9%)	56 (18.1%)	41 (13.3%)	132 (42.7%)	62 (20.1%)	306
Question 4	7 (2.3%)	34 (11%)	39 (12.6%)	144 (46.6%)	81 (26.2%)	305
Question 5	7 (2.3%)	32 (10.4%)	44 (14.2%)	136 (27.8%)	86 (27.8%)	305
	Very Low	Low	Moderate	High	Very High	N
Question 6	2 (.6%)	22 (7.1%)	77 (24.9%)	146 (47.2%)	17 (5.5%)	264

Table 2.2: Follower Perceptions of Focal Leaders’ Involvement in Change – Frequencies

	Little or No Involvement	Low Involvement	Moderate Involvement	High Involvement	Very High Involvement	N
Question 1	4 (1.8%)	23 (10.3%)	21 (9.6%)	102 (46.6%)	69 (31.5%)	219
Question 2	3 (1.4%)	20 (9.2%)	25 (11.5%)	84 (38.5%)	86 (39.4%)	218
Question 3	6 (2.8%)	27 (12.4%)	29 (13.4%)	98 (45.2%)	57 (26.3%)	217
Question 4	4 (1.8%)	22 (10%)	33 (15.1%)	101 (46.1%)	59 (26.9%)	219
Question 5	3 (1.4%)	24 (11%)	29 (13.3%)	107 (49.1%)	55 (25.2%)	218
	Very Low	Low	Moderate	High	Very High	N
Question 6	1 (0.5%)	13 (6.9%)	42 (22.3%)	91 (48.4%)	41 (21.8%)	188

From table 2.1 it can be seen that 99.7% leaders indicated their department was involved in transformations (Q1). Only 1 (0.3%) leader said their department was engaged in little or no change. Similarly 98.2% followers indicated departmental involvement in transformations (table 2.2). 98.4% leaders considered themselves to be involved at various levels in the NHS changes (Q2 – table 2.1) with nearly 80% leaders indicating higher levels of involvement in the changes. This is also endorsed by nearly 80% of the followers perceiving their leaders to have higher levels of involvement in the changes. Moreover, nearly all followers (98.6%) considered their leaders to be involved in transformations (table 2.2). 95.1% leaders and 97.2% followers perceived leaders to be engaged in envisioning and developing changes to some extent or another (Q3). Furthermore, 97.7 leaders themselves and 98.2% followers perceived their leaders as engaged in implementing and incorporating the

NHS changes (Q4). 97.7% leaders themselves and 98.6% followers believed that the leaders were managing the changes and transformations in the NHS to different extents (Q5). Hence, the above provides statistical evidence that the NHS trusts participating in this study were significantly and universally involved with and affected by the transformations the NHS was undergoing.

Furthermore leader and follower responses showed that all departments were engaged in a high level of change (Q1). On average all the leaders in all the different positions (directors, senior managers, managers, supervisors and staff) in the NHS were involved in the NHS change processes (Q2), were instrumental in envisioning and developing the NHS changes to some extent (Q3), and perceived themselves to be involved to some extent in incorporating and implementing changes in their departments (Q4). All the leaders in all positions considered themselves to be highly or very highly involved in managing change, except for ‘consultants’ who considered themselves to be involved in managing change in the NHS but not to a high extent (Q5). This information has been graphically presented through bar charts in figures 2.1 and 2.2 showing the mean response for each leader group for each question.

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Figure 2.1 – NHS Leaders' Involvement in Change

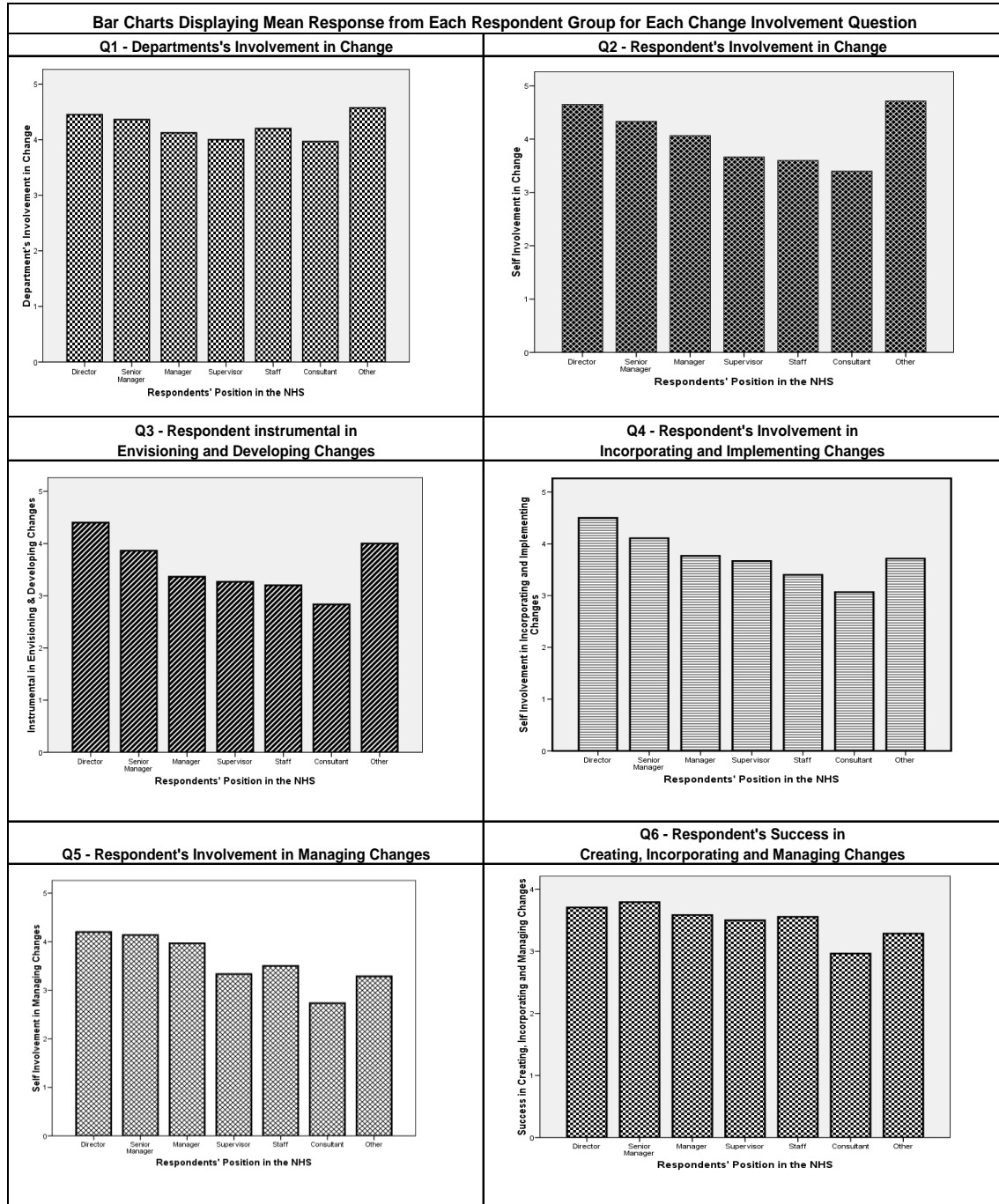
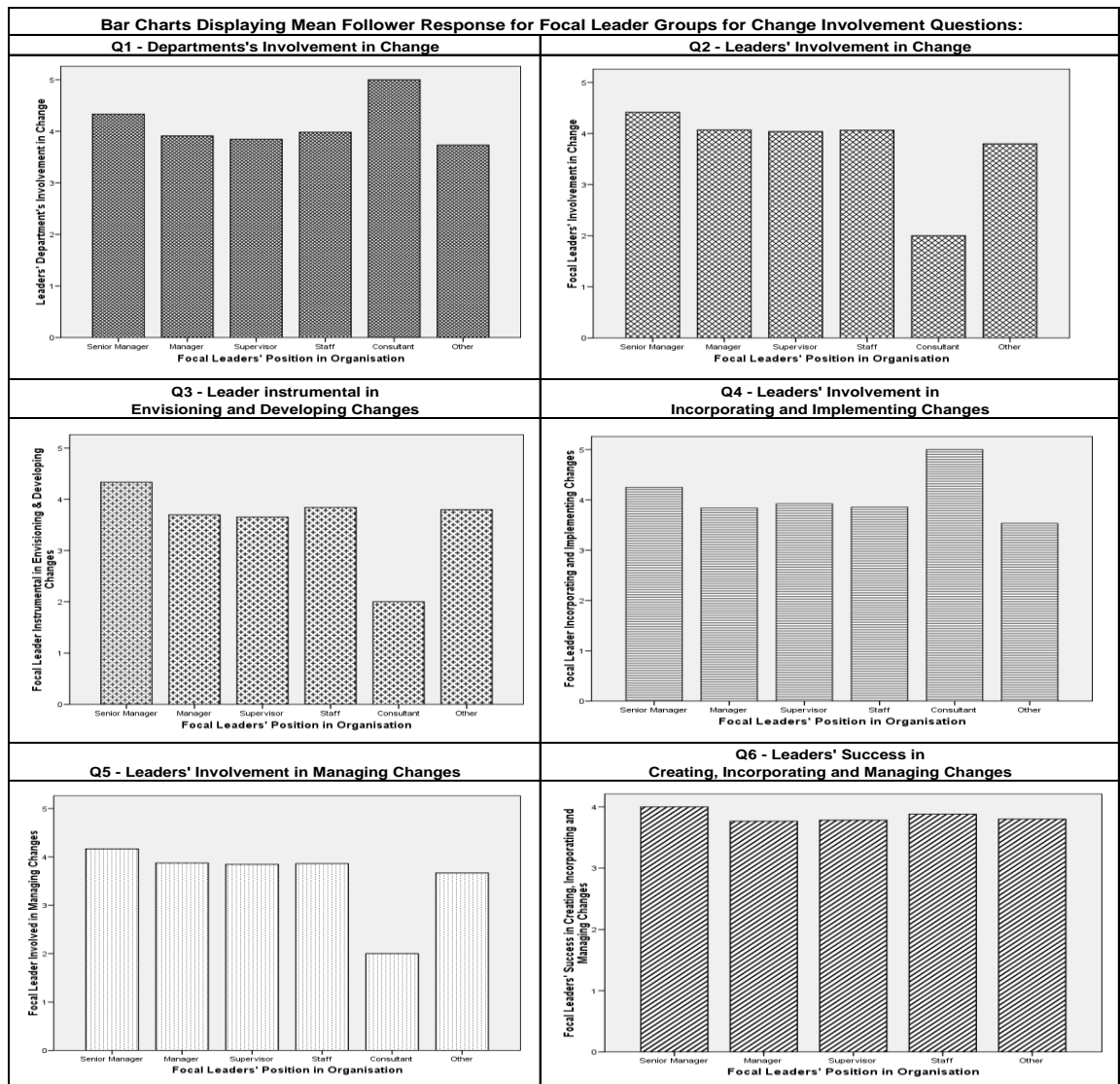


Figure 2.2: NHS Focal Leaders' Involvement in Change: Follower Perceptions



Therefore, taking into account the frequency table and bar charts; on the whole, it may be argued that there was no leader who had no involvements in change at all. Every NHS leader, in some way or another; was involved in and engaged with the transformational processes the NHS was going through at the time of participating in this study.

2.5 FURTHER JUSTIFICATION FOR THE NEED OF THIS STUDY IN THE NHS

In the UK the National Health Service (NHS) has been undergoing different kinds of transformations in an attempt to improve quality and enhance efficiency of performance and services provided. In order to improve the standard and quality of clinical services provided, the approach of clinical governance was introduced into the English and Welsh NHS in 1998 after the lack of the Government's clinical effectiveness strategy in practice, was revealed. "*The NHS Plan: A Plan for Investment, A Plan for Reform*" presented to parliament by the secretary of State for Health and published in July 2000, laid down a detailed change agenda for the NHS. Accordingly reform plans were made for different aspects of the NHS. In this plan a devolved system of responsibility was encouraged where specially trained nurses were given greater responsibilities than doctors so that doctors can attend to serious and urgent cases quicker and more efficiently. The nature of relationship between the government and the NHS was also been revisited. Independent monitoring committees were established to assess quality levels of performance within each trust and report it to the general public. Attempts have been made to improve the structure by introducing primary care trusts (PCT) universally in the NHS. Working dynamics between the NHS and the social services were redefined, hoping that it will remove the barriers which could prevent people getting the necessary care required, at the time when it is required. Changes and improvement in the working systems, contractual agreements of doctors were proposed in the plan, amending the personal medical services contracts of doctors and introducing novel appraisal systems for doctors through clinical governance. Further, the plan also proposed reforms for nurses, midwives, therapists and other NHS staff at every level to facilitate better services to patients and better opportunities to staff members. Radical changes were proposed in the nature of staff working. It encouraged the emerging trends of reducing hierarchical rigidity in the NHS through the expanded and more responsible roles being satisfied by midwives, nurses and collaborative flexible teams of occupational therapists, district nurses, physiotherapists and social care staff. To implement clinical governance, the Commission for Health Improvement (CHI) started operating in 2000. Its published reports adopted a judgmental and

inspectorate slant and thereafter the CHI was reformed as the Commission for Health Audit and Inspection (CHAI). Firth-Cozens (2001) reported that new systems were incorporated for appraising doctors and addressing inadequate clinical competencies that were identified. Walshe (2005) demonstrated that the NHS has been undergoing structural changes at local levels. Wallace et al (2001b) described the change management approaches being adopted in the NHS. Special attention has been paid to establishing systems baselines and reporting mechanisms (Wallace et al, 2004). Wallace et al (2004) discovered “a rich variety of changes, both at the level of selected clinicians’ behaviour and in systems” (Wallace et al, 2004). Also Wallace et al (2004) noticed that a lack of sufficient information systems and need for knowledge management might have led to a piecemeal nature of change. However, they recommend future change management to be such that it aims at widespread transformation. Shapiro and Shapiro (2003) indicate that the NHS is increasingly developing and operating within a constantly changing culture. Shapiro and Shapiro (2003) believe that although *The NHS Plan*, ruled out the alternative options of imposing charges, private insurance and so on; yet, ongoing current transformations in the NHS may bring into force the above. Shapiro and Shapiro (2003) recommend transparency and collaborations between professionals and patients for problem resolution. They insist that this kind of change is required to reap the best potential of private funds. Further need for change has been identified by the Department of Health (DoH) in the context of information availability and accessibility to patients and the general public (DoH, 2004). A three year strategy programme has been drawn up entitled, “Better information, better choice, better health: Putting information at the centre of Health” which recognises the need to provide information to the patient so that they can make informed decisions regarding their healthcare. Through the recruitment of greater number of doctors and nurse, the NHS is aiming to provide better treatment more quickly and also offer patients the choice of how and where they would prefer to be treated. The aim of this strategy is to improve the accessibility of information across all sectors of the population through different channels, languages and media. Emphasis is also being laid on establishing the availability of personalised information from the doctors. Thus doctors are encouraged to change their style of working and providing treatment by ensuring the patient has access to all relevant information, to make an informed choice regarding their healthcare.

In 2007-08 active steps were taken to move more patient-care activities into the PCTs, now from 2011-2013 with the new proposed reforms to abolish PCTs; reasonably a significant proportion of these services will have to be shifted to acute trusts or commissioned externally including the private sector. Reforms introduced in the July 2010 white paper, aim to upgrade quality and results for patients as well as ensure greater local management through organisation and management by the community the trusts cater too, and reduced micromanagement by the DoH from a distance (Walshe & Ham, 2011). These reforms also require restructuring and designing new pathways with clinical leads to improve quality, effectiveness and efficiency of healthcare provision. Furthermore, it creates a greater role for the private sector and more competition among providers (Walshe & Ham, 2011). Graban and Swartz (2012) observe, “Healthcare is heading toward a state of crisis... unless we can dramatically improve the rate at which healthcare organisations improve” (Braban & Swartz, 2012: 35). Thus a clear need, emphasis and ambience of change are currently evident in the health services in UK.

2.6 IMPORTANCE OF LEADERSHIP IN THE CONTEXT OF CHANGE IN THE HEALTH SECTOR

Wallace and Stoten (1999) reported the need to instil and improve knowledge and leadership among chief executive and non-executive directors of clinical effectiveness. Walshe (2005) believes that transformations in the structure of the NHS at local levels are affecting the corporate leadership prevalent in clinical governance. They report that there are significant discrepancies in the extent to which leaders have been able to handle pockets of resistance to the change procedures. Wallace et al’s (2004) studies revealed a high level of professional and cultural resistance to change management efforts. In 2000, the NHS Leadership Centre was made part of the new Modernisation Agency’s (associated with the Department of Health) responsibility. However, there was recognition of the need and confidence in appropriate leadership and the willingness to allocate leadership roles (Wallace et al, 2004). Shapiro and Shapiro (2003) highlight the hierarchical set-up of the NHS “with devolved power dependent upon strict adherence to specified practice” (Shapiro & Shapiro, 2003: 256). The change processes currently prevalent

in the NHS have indicated a strong need and interest in the appropriate leadership. Cook and Leathard (2004) states that there is a lack of studies specifically addressing clinical leadership or the difficulties encountered in establishing the characteristics of effective clinical leaders. Cook and Leathard (2004) posit that effective clinical leaders adopt a TL approach to improve care. It has already been argued earlier that TL is considered to be highly effective in assisting change. Managers and healthcare administrators are highly in need of TL and are advocated to adopt TL (Matey, 1991). Robbins et al (2001) points out that the number of people emerging from universities, who are qualified and competent enough to take up senior positions in the complex healthcare sector is insufficient (Robbins et al, 2001); hence more research on leadership in the healthcare sector is required. The need for better leadership in the nursing profession is also suggested (Fuimano, 2004). Hence conducting this study in the health services is highly relevant and will hopefully yield beneficial insights into the influence and impact of TL in the health sector.

Further in the NHS strategy for enhancing information accessibility, emphasis has been laid on doctors' listening carefully to patient complaints and communicating with them with empathy (DoH, 2004). Further an emotionally intelligent leader is suggested to be more effective as a transformational leader; by virtue of being aware of one's own emotions as well as others and thus be well equipped to handle and dissuade negative emotions of anger, fear, loss which often form the forces that resist change. There is a growing realisation within the health services of the benefits of emotionally healthy and emotionally intelligent organisations (Arond-Thomas, 2004). This thesis will also explore the implications of EI in the health sectors rife with change. Preliminary research has showed that emotional intelligence is developable and trainable. Hence this research study has the capacity to identify areas in the health sector in need of emotional intelligence development. The following chapter reviews the literature on EI.

CHAPTER 3: EMOTIONAL INTELLIGENCE

LITERATURE REVIEW

3.1 CHAPTER INTRODUCTION

This chapter examines the concept of EI, its development, the various definitions and models including the conflicting streams that have emerged in the arena. Thereafter, the relevant EI literature is reviewed in the context of change and workplace applications. The reliability and validity of the various measures of EI have also been examined here.

The construct of EI encompasses the process and ability to perceive, understand and examine personal emotions in the context of a particular situation. It also involves understanding and being aware of other people's emotions and thereafter utilising this awareness to inform one's thoughts and actions in such a manner, so that a positive healthy emotional environment is nurtured (definitions discussed in detail in section 3.3.).

3.2 EMERGENCE OF EMOTIONAL INTELLIGENCE

EI has its roots in Thorndike's (1920) research on social intelligence. Salovey and Mayer (1990) known as "the progenitor of the concept" labelled it 'Emotional Intelligence' (Dulewicz & Higgs, 2000). However, Goleman (1996) first related EI to the workplace.

Wechsler's (1940, 1943) works imply that aspects of general intelligence may be non-intellectual and affective similar to the concept of EI. Leeper (1948) suggested that logical thinking in general encompass emotional thinking as well.

After nearly half a century, Gardner (1983) presented the concept of intelligence being composed of multiple dimensions combining cognition and emotion. Gardner

(1983) maintained that the emotional or personal dimension of intelligence is comprised of two components, intra-psychic capacities and interpersonal skills. Gardner's (1983) concepts of interpersonal and intrapersonal intelligence are linkable to EI (Gardner, 1983; Gardner & Hatch, 1989). The conventional perception of cognitive intelligence has been challenged by later psychologists like Mayer and Salovey (1993) who have established EI as a distinct and individual construct of intelligence.

The search for performance and success level differentiators accelerated the emergence of EI. Also the traditional measures of IQ have not adequately explained certain aspects of differential achievement (Dulewicz & Higgs, 1998: 31) and it was hoped, "emotional intelligence as measured by the EQ (Emotional Quotient) ...[would] provide an additional and perhaps better predictor of success than IQ (Intelligence Quotient)" (Bar-On, 1997: xii).

A variety of terminology has emerged across disciplines referring to the concept of EI. While Salovey and Mayer (1990) coined the term 'Emotional Intelligence', some authors termed the measured score of EI as Emotional Quotient (EQ) (Cooper & Sawaf, 1997). This concept runs parallel to the notion that Intelligence Quotient (IQ) indicates the measure of intellectual/rational/cognitive intelligence. Within the educational context, EI has been christened as emotional literacy. Boyatzis (1982) refers to the concept as emotional competencies while some others have started referring to a traits-based model of EI (Pertrides & Furnham, 2001).

Mayer and Salovey (1990) devised the fundamental model of EI. This was subsequently popularised by Goleman (1995) in a workplace context. Although Goleman (1995) has been heavily criticised for suggesting that while rational intelligence accounts for 20% of success in outcomes of life; EI would account for the remaining 80% - it is important to recognise that Goleman (1995) through his bestselling book brought the concept to the attention of organisations and provided huge impetus to study and further develop the concept and its application.

Thereafter, in the last decade various new models of EI have emerged leading to a few classification systems: the ability and mixed-model camps being the most

prominent classification, based on the factors comprising the EI models. Some authors have favoured classifying the models based on EI components and the methods of measuring the models i.e. objective measures and self-report measures (Christiansen et al., 2010; Daus & Ashkanasy, 2005; Daus & Ashkanasy, 2003). These models and classifications are discussed later in this chapter.

3.3 EI DEFINITIONS

There are various definitions and models of emotional intelligence (EI) (e.g. Mayer & Salovey, 1997; Baron, 1997; Goleman, 1997a; Cooper & Sawaf, 1997; Palmer & Stough, 2002; Law et al., 2004). However, the different EI models and measures “tend to be complementary rather than contradictory” (Ciarrochi et al, 2000: 540). EI is the ability to understand and perceive one’s own and others’ emotions and then; channel, regulate and manage one’s own and others emotions so that optimum results may be achieved (Bar-On, 1997; Goleman, 1996). It entails the intelligent use of one’s emotions (Weisinger, 1998). EI “involves the ability to perceive accurately, appraise, and express emotion; the ability to access and /or generate feelings... the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer & Salovey, 1997).

EI is defined differently by different researchers though all the definitions have similar connotations. EI is the process and ability to understand, regulate and manage one’s own emotions and other’s; and allow feelings to guide thought and action. Dulewicz and Higgs (1999) perceive the concept as “somewhat nebulous” (Dulewicz & Higgs, 1999: 2). Mayer et al. (1990) expressed EI as the capability to assess and comprehend emotions in oneself and others, to express emotions appositely and exercise control and coordination over emotions so that it contributes towards better living. Mayer and Salovey (1993) subsequently explain it as an offshoot of social intelligence. Martinez (1997) summarises the meaning of EI as “...an array of non-cognitive skills, capabilities and competencies that influence a person’s ability to cope with environmental demands and pressures” (Martinez, 1997: 72). Cooper and Sawaf (1997) define EI as the “ability to sense, understand, and effectively apply the power and acumen of emotions as a source of human energy, information,

connection, and influence.” (Cooper & Sawaf, 1997: xiii). Goleman (1997a) defines EI as being able to know and recognise one’s own feelings and being able to deal with them; motivating oneself to complete tasks and exploit one’s own creativity; and understanding others’ feelings and thereby dealing with relationships appropriately and effectively. Bar-On (1997) defines EI as “an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (Bar-On, 1997: 16). Mayer and Salovey (1997) further developed their definition of EI. They say, “Emotional Intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and /or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer & Salovey, 1997: 10).

Hence, many definitions of EI have been documented, all having similar connotations (see Dulewicz and Higgs, 2000). Ciarrochi et al (2000) points out that the different models of EI and their measures “tend to be complementary rather than contradictory” (Ciarrochi et al, 2000: 540). Ferres and Connell (2004) endorse this viewpoint, stating that the different conceptualizations and measurement instruments of EI “overlap with respect to the areas of emotion perception, understanding, utilization and management” (Ferres & Connell, 2004: 64). Despite differences in the level of detail portrayed there is a “relatively high degree of consensus on the domain of Emotional Intelligence” (Dulewicz & Higgs, 1998a: 4).

Tomer (2003) explored the similarities and dissimilarities of different researchers’ understanding of EI. He argued that while Mayer and Salovey (1997) perceive EI as a branch of intelligence encompassing aspects like thinking, perceiving, understanding, appraising, discriminating and identifying emotion; Goleman (1998) aligns the concept with peoples’ emotional functioning. Similar to Goleman (1998), Weisinger (1998) perceives EI as the intelligent use of emotions. Cooper and Sawaf’s (1997) definition of EI emphasises intuition, integrity, personal purpose and creativity related to business leadership. These aspects have not been highlighted by Goleman (1998). Simmon and Simmon Jr. (1997) structured EI differently, relating it to twenty six character traits which appear to be relatively invariant (Tomer, 2003: 458). Dulewicz and Higgs (2000) are of the opinion that “emotional intelligence

...addresses individual traits, values and behaviours” (Dulewicz & Higgs, 2000: 348).

While the various EI definitions and models tend to be complementary (Ciarrochi et al, 2000) and have overlapping factors. The models and conceptualisations may be divided into two major streams: the ‘mental ability’ or ‘ability’ stream and the ‘mixed-model’ stream (Daus & Ashkanasy, 2005; Mayer et al., 2000). The ability stream essentially aligns with Mayer and Salovey’s (1997) conceptualisation of EI which propounds EI as drawing upon elements of cognition (thought), emotion and conation (or motivation) (Christie et al., 2007). This model epitomises EI as a higher order construct encompassing four key branches presented as (a) emotional awareness (b) facilitating emotions (c) understanding emotions and (d) managing emotions (Mayer & Salovey, 1997). Palmer and Stough (2002) put forward a similar conceptualisation of EI entailing (a) emotional recognition and expression (b) understanding others’ emotions (c) emotions direct cognition (d) emotional management and (e) emotional control (Palmer & Stough, 2002). This is known as the Swinburne University Emotional Intelligence Model or Swinburne University Emotional Intelligence Test (SUEIT) Model and strongly aligns with Mayer and Salovey’s (1997) conceptualisation of EI building on cognition, affect and conation. Furthermore, this model was purpose-built to cater to work environments. Therefore this PhD study adopts the SUEIT model of EI as the working definition of EI representing the ability stream. This model is explained below (table 3.1).

Table 3.1: SUEIT Components

SUEIT COMPONENTS	DESCRIPTION
Emotional Recognition And Expression	Identifying own emotions and appropriately conveying one’s feelings.
Understanding Others’ Emotions	Assimilating feelings and emotional information in reasoning and decision-making.
Emotions Direct Cognition	Identifying and comprehending others emotions and emotions in external stimuli.
Emotional Management	Managing one’s own and others favourable and unfavourable emotions.
Emotional Control	Controlling potentially unfavourable emotions in the workplace including anger, anxiety, frustration.

(Adapted from Gardner & Stough, 2002)

The mixed-model definitions of EI subsume ability elements and extend to include non-cognitive factors like social competencies and personality traits encompassed in the Big Five factors of personality. This stream of EI is best represented by Bar-On's (1997) model of EI and Higgs and Dulewicz (2002) definition of EI. Similar to the SUEIT, Higgs and Dulewicz's (2002) model of EI has also been developed by taking into account work environments. Therefore, this PhD study adopts Higgs and Dulewicz's (2002) rendition of EI as the working definition of EI aligning with the mixed-model of EI. This conceptualisation is presented below (table 3.2):

Table 3.2: Higgs & Dulewicz EI Components

HIGGS & DULEWICZ EI COMPONENTS	DESCRIPTION
Self Awareness	Awareness of self-feelings and ability to manage self-feelings.
Emotional Resilience	Performing consistently in high-pressure circumstances and adapt behaviour.
Motivation	Achieving and working towards targets, managing short and long-term goals despite criticisms and ambiguity.
Interpersonal Sensitivity	Displaying sensitivity and empathy to other people.
Influence	Persuading others to subscribe to one's viewpoint or suggestions.
Intuitiveness	Decision-making using logic and intuition with ambiguous information.
Conscientiousness	Consistency in words and behaviour, and acting in accordance with established ethical codes.

(Adapted from Higgs & Dulewicz, 2002; Dulewicz et al., 2003)

While there is broad consensus among the plethora of EI models regarding the generic understanding of EI, there is still strongly divided opinion about whether mixed-models of EI constitute a crystallised form of EI. Researchers rejecting the mixed-models of EI argue that social skills and personality traits (i.e. motivation) are not a subset of EI and EI purely constitutes mental/cognitive abilities. Therefore, this study employs two representative models of EI from each stream to examine the interactions between EI, leadership and outcomes from both the leaders' and followers' perspective. Detailed comparisons between the mental ability stream and mixed-model stream have been further elucidated later in this chapter.

3.4 EMOTIONAL INTELLIGENCE AND RELATED CONSTRUCTS

Salovey and Mayer (1990) describe EI “as the subset of social intelligence” (Salovey & Mayer, 1990: 189). Social intelligence is defined as “the ability to understand and manage people” (Thorndike & Stein, 1937: 275 as quoted in Salovey & Mayer, 1990: 187). However social intelligence is very broad encompassing verbal, visual and spatial intelligences. In 1960, Cronbach (1960) concluded that, despite fifty years of research it remained undefined and unmeasurable, it may not be considered a separate intelligence.

Nonetheless, Sternberg et al (1981) and Cantor and Kihlstrom (1985) have implied its possible existence as a distinct construct of intelligence and a possible unifying construct to better comprehend personality and individual differences. Salovey and Mayer conceive substantial affective content in this construct thereby connecting it to EI. (Salovey & Mayer, 1990: 189) Herein, Salovey & Mayer emphasise that EI “does not include the general sense of the self and appraisal of others. It focuses, rather, on the processes... [of]...recognition and use of one’s own and others’ emotional states to solve problems and regulate behavior” (Salovey & Mayer, 1990: 189). Gardner’s (1983) conception of interpersonal and intrapersonal intelligence also relates to EI.

EI may be associated with psychological mindedness⁶ (McCallum & Piper, 2000: 118) which acknowledges that people may try to “potentially conceptualize the relationship between thoughts, feelings, and actions” (Silver, 1983: 516 as quoted in McCallum & Piper, 2000: 119). McCallum and Piper (2000) highlight that both constructs can be ambiguous. The ambivalent aspects of psychological mindedness inquire whether it is good, a means or an end, whether it is developable, or whether it self focussed or spotlights others. Some of these ambiguities are considered to have

⁶ Silver’s (1983) defines psychological mindedness as including “the patient’s desire to learn the possible meanings and causes of his internal and external experiences as well as the patient’s ability to look inwards to psychical factors rather than only outwards to environmental factors...[and] to potentially conceptualize the relationship between thoughts, feelings, and actions” (Silver, 1983: 516 as quoted in McCallum & Piper, 2000: 119).

an effect on EI (McCallum & Piper, 2000). EI has greater applicability as it covers emotional, personal, and social abilities which can modify individual acumen to manage environmental demands while psychological mindedness is applied mainly in determining psychotherapy candidates. Whereas EI gradually has tended to assume universal consensus as a multidimensional construct, psychological mindedness is considered multidimensional by some and uni-dimensional by others. Although psychological mindedness is not considered to relate to interpersonal skills encompassing the expression of empathy, compassion and a social person capable of satisfying interpersonal relationships; the constructs of psychological mindedness and EI overlap substantially regarding ability attributes.

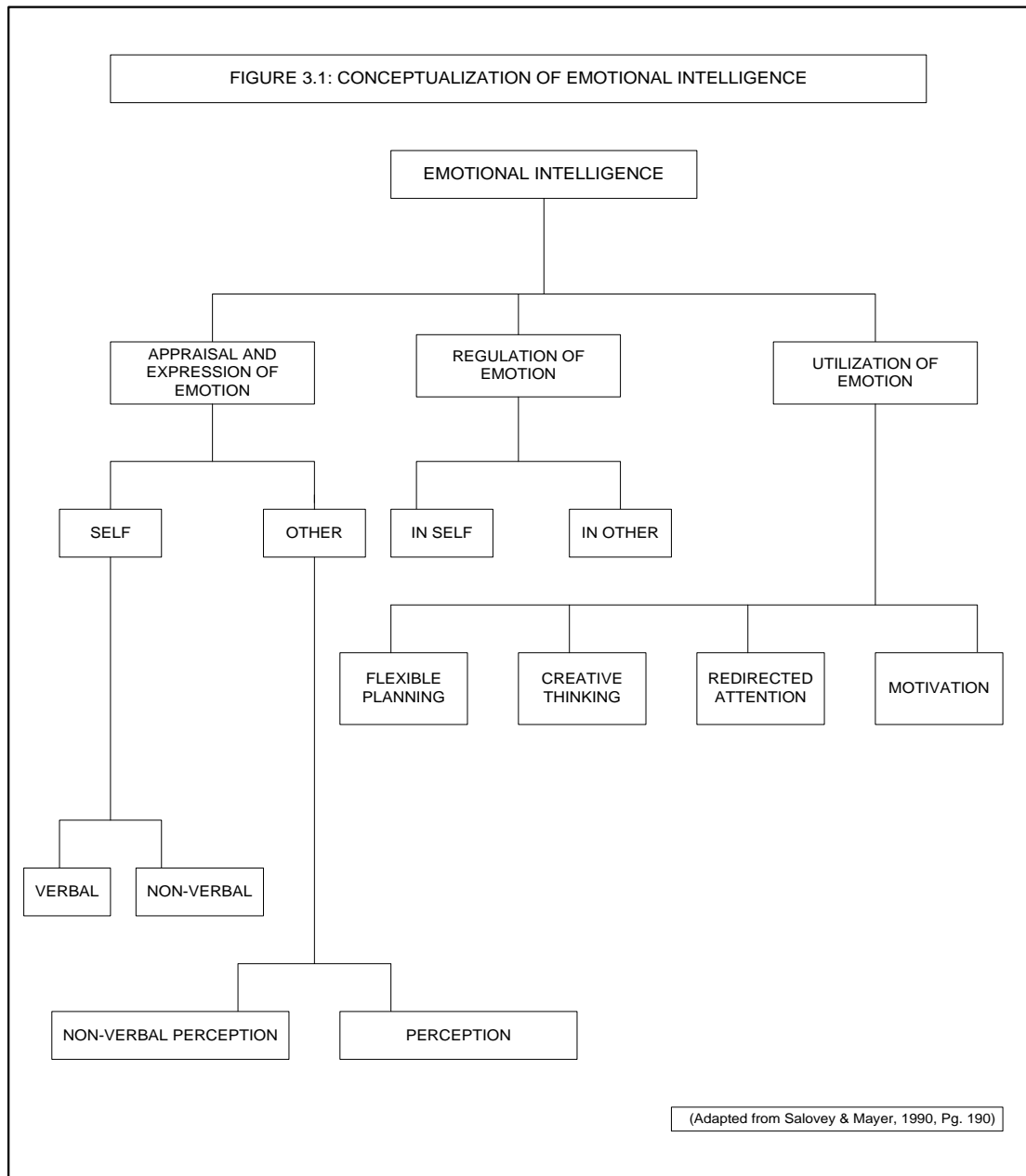
3.5 RESEARCH JUSTIFYING THE EXISTENCE OF THE EMOTIONAL INTELLIGENCE CONSTRUCT

The relatively recent conceptualisation of EI calls for a justification of its existence as intelligence in itself, in the psychological field; before application, specifically in the corporate arena.

Salovey and Mayer (1990) introducing the label of EI categorised emotional information processing as, “a) appraising and expressing emotions in the self and others, b) regulating emotion in the self and others, c) using emotions in adaptive ways” (Salovey & Mayer, 1990: 190-191), shown in figure 3.1. The authors acknowledge the ‘heuristic value’ implicit in the then highly unintegrated EI literature.

[Please Turn Over]

Figure 3.1: Conceptualisation of Emotional Intelligence



Mayer et al. (1990) aimed to verify any relationship between visual stimuli and emotion and thereby EI. Participants viewed facial images, designs containing straight and curved lines and different colours. The criterion measures included a 33-item *empathy* scale (Mehrabian & Epstein, 1970), a 26-item, four factor alexithymia⁷ scale (Taylor, Ryan, & Bagby, 1985) and a shorter version of the Eysenck

⁷ Alexithymia is the term given to define a situation where the person is unable to understand and describe their emotions and feelings. “Difficulty in recognizing, articulating, or conveying one’s own emotions.” (Corsini, 2002: 33)

Personality Inventory⁸ (Eysenck, 1973). They concluded the existence of a consensual broad capacity to notice emotions in *visual stimuli*. They infer, "...these results suggest that aspects of emotional intelligence appear to be abilities...that can be measured through the use of task..." (Mayer et al., 1990: 779) They reiterated that emotional expression is manageable via EI.

Gardner (1993) introduced the 'Theory of Multiple Intelligences' where human intelligence is structured, and analysed in parts. '*Intrapersonal*' and '*Interpersonal*' Intelligence of this theory resembles EI (as defined by Goleman, 1995). Gardner (1993) perceives '*Intrapersonal Intelligence*' as enabling people to discern between their feelings and employ this distinction to guide their decisions and actions. '*Interpersonal Intelligence*' matches the emphasis EI lays on understanding others emotions and managing relationships.

Empathy makes people emotionally better, more sensitive and amiable (Nowicki & Duke, 1989). Research showed only incidental relationships between empathy and IQ, thereby indicating that EI is an independent construct (Dulewicz & Higgs, 1998a: 7). After reviewing research on IQ and EI, Goleman (1996) endorses the above, inferring, "...there is a slight correlation between IQ and some aspects of EI, but small enough to make clear that they are largely independent entities" (Goleman, 1996: 44).

Mayer and Salovey (1993) discussed the suitability of appending the term intelligence to this construct as a result of criticisms posing this question. They review the underlying "abilities" and "mechanisms" of EI and the possibility of this construct being considered a competence and not a different kind of intelligence altogether. Their construction connects to Gardner's (1983) "intrapersonal intelligence". Scarr (1985, 1989) highlighted the tendency to collate all human virtues as various intelligences. However, Mayer and Salovey (1993) believe, "Personality traits such as extraversion involve dispositions toward behavior; intelligence involves organismic abilities to behave" (Mayer & Salovey, 1993: 434-435). While extraversion may be a social skill, comprehending someone else's

⁸ This focussed on measuring neuroticism⁸ and extraversion⁸.

emotions is a mental ability, which may or may not be rooted in general personality. Thereby strengthening the case of EI as an intelligence.

Mayer and Salovey (1993) distinguishes EI from general intelligence saying, EI is strongly concerned with the processing of emotional information and emotional content exclusively and does not necessarily take into its purview the pre-requisite of social knowledge, verbal knowledge and the like.

Mayer and Salovey (1993) pinpoint processes contributing to EI. These are the existence of *emotionality* itself, the difference in levels of emotional variations and mood changes experienced and their resultant affects, and conscious and unconscious functional processes in the mind that increase or decrease the degree of emotion felt. In turn emotions can affect information channels; like, excessive emotional tension reducing IQ performance. They suggest the possibility of specially conditioned neural capabilities to code or decode emotional depictions.

Mayer and Salovey (1993) repudiated criticisms against aligning EI to an already controversial field of IQ. They emphasise EI as seeking “a mental aptitude - one that assists in intellectual processing...” (Mayer & Salovey, 1993: 439)

Mayer and Salovey (1995) contrasted examples of emotion construction and regulation. They conduct their discussion via reference to three prominent levels: “the nonconscious, lower, and higher conscious levels” (Mayer & Salovey, 1995: 198). An argument is presented relating to the application and administering of EI to emotion construction and regulation. For this purpose they have constructed a table of models, the first one being amply based on prevalent assumptions of the acceptable and adaptive forms of emotion regulation which is also considered high in keeping with the implicit model used in the field of psychology research (table 3.3 & table 3.4).

Table 3.3: Propositional Models Concerning Emotional Regulation, Speculatively Classified As Higher and Lower Internal Consistency and Higher and Lower Adaptational (Survival) Value

Common Assumptions (Multiple alternatives are possible):

1. Other things being equal, pleasure is good for people; pain is bad.
2. People naturally seek pleasure and avoid pain.
3. People cannot always attain enough pleasure to offset pain.
4. Other things being equal, people find it easier to be happy when those around them are happy as well.
5. The optimal thing to feel in a given situation is context dependent.

Emotional Regulation Model 1: Consistent and high adaptational value

1. People can optimize their pleasures by forgoing short-term pleasures for larger or more sustained long-term pleasures (see Assumptions 1 and 2).
2. People should strive toward emotions that are both pro-individual and pro-social (see Assumption 4).
3. The best emotions to feel will depend upon the situation; there are times when painful emotions are more appropriate than positive ones in the long run (see Assumption 5).

Emotional Regulation Model 2: Consistent and low adaptational value

1. People should stop reproducing and eliminate themselves and society so as to ensure that in the future pain won't exceed pleasure by more than a limited amount (see Assumption 3).

Emotional Regulation Model 3: Inconsistent and moderate adaptational value

1. People can optimize their pleasures by always taking those that are available without regard for future consequences (see Assumptions 4, 5).
2. People should optimize their own pleasures because pleasures of others will not matter or will take care of themselves (see Assumption 4).
3. People should always strive to be happy wherever possible (see Assumption 5).

Emotional Regulation Model 4: Inconsistent and low adaptational value

1. People should cause pain wherever possible (see all assumptions).

(Adopted from Mayer & Salovey, 1995)

Table 3.4: Major Dimensions Encompassed In Emotion Regulation at High Level of Consciousness Instrumental in Depicting Emotional Intelligence

Name of Dimension	Brief Explanation of its Constituents
Clarity	This factor evaluates how clearly and precisely one is able to decipher and comprehend one's own moods and emotions.
Attention	This involves the degree of attention an individual is paying to his or her own moods and emotions.
Emotional Ambivalence	This dimension is essentially characterised by the coexistence of contrasting or conflicting emotions towards the same object or situation in the same individual. It focuses on such ambivalence over the expression of an emotion.
Acceptance, Typicality and Influence	Mood acceptance involving the self-assurance that it is acceptable to feel in that given way and typicality involving the self-acknowledgement that it is a characteristic mood for the person to be in; both centre upon retention rather than mood improvement or deterioration. The factor influence here attempts to ascertain the correlation between personal judgement and mood. However, unfortunately, it is unsuccessful in doing so in this context.
Self-efficacy of Regulation	This factor is concerned with the effectiveness of personal efforts in bettering one's own negative moods.
Meta-regulation of Mood	This factor is based on more recent discoveries at the time (1995) which recognised the existence and importance of certain dimensions, mainly mood repair, mood-maintenance, mood-dampening.

(Adapted from Mayer & Salovey, 1995)

Having discussed the above proponents of emotionally intelligent regulation, Mayer and Salovey (1995) argue that however such emotionally intelligent regulation does have a major base of individual information access, store and self-knowledge of determinants of one's feelings. The authors highlight certain limitations and ambiguities of the Model 1 stated in table 3.3. The implicit advice to use EI in a manner so that emotional reaction is context sensitive raises the question as to what feeling is appropriate in which situation. "Working out such problems involves many questions of values, but then, emotional intelligence is in at least a limited sense a science of values" (Mayer & Salovey, 1995: 204). They assert that EI also includes arranging emotional information for positive outcomes, emotional creativity

requiring understanding of emotions and emotional openness to better solve intellectual tasks (Mayer & Salovey, 1995).

Mayer and Geher (1996) distinguished emotions from thoughts while acknowledging individual difference. Participants in their study, expressed how they thought the narrators felt, from narrations of real experiences of others. Consensus agreement and target (narrator) agreement was used for scaling. There was significant correlation of *target agreement* and *consensus agreement* with trait empathy measures and a positive correlation between the two. The fundamental concept in this work is that “emotional intelligence involves the ability to infer a person’s emotions from his or her thoughts.” (Mayer & Geher, 1996: 108) Since “both target agreement and consensus agreement did relate to the criterion measures of emotional intelligence, although unrelated to each other” (Mayer & Geher, 1996: 110), the authors inferred the implication of two ways in which EI could and should be measured.

Contrary to Mayer and Salovey (1993, 1997) conclusions, Davies et al (1998) negated the notion of EI as a separate and distinct construct of intelligence. They conducted three empirical studies to conclude whether EI justifiably positions itself within the framework of traditional cognitive abilities. From these findings, they presented the opinion, that “...as presently postulated, little remains of emotional intelligence that is unique and psychometrically sound” (Davies, Stankov & Roberts, 1998, Pgs. 989 & 1013). However, Mayer et al (2000), in reply strongly and scientifically demonstrated the existence of EI as an individual intelligence (discussed in details later in this section).

Becker (2003) echoes Davies et al’s (1998) concerns. He says that this concept is a construct, which is yet to be nurtured and developed as a concomitant component to understanding organisational settings and behaviour. He enquires as to the reason for the need to consider EI as a separate intelligence and not just a part of the general intelligences. He backs up his argument by citing Carroll (1993) who factor analysed applicable available data from the twentieth century and did not succeed in discovering any broad mental ability autonomous of the general intelligence domain.

Becker's (2003) second objection relates to the issue of the measurability of EI, which he believes is not adequately developed.

In reply, Jordan et al (2003) addresses the above two criticisms individually. While justifying the legitimacy of EI they argue that at this moment in time EI should be perceived as within the sphere of the processing of a new healthy construct. He cites Weick's (1989) indication of a three stage process involving "variation", "selection" and "retention" in such developments. At the initial stage the proposed construct is subject to scholarly debates, the second involves testing its validity and the final stage decides whether the said construct will be adopted and applied or not. Jordan et al (2003) insist that currently EI is moving from the second to the final stage. They "argue that emotional intelligence is, at present, in Weick's (1989) selection stage and is entering the retention phase which is where our theory is positioned" (Jordan et al, 2003: 1).

They also argue and highlight the fact that the emotional aspect in organisational behaviour has been ignored for a long while. They draw upon Ashforth and Humphrey's (1995) and Fisher and Ashkanasy's (2000) beliefs associating emotions and emotional effects with corporate life. Although they agree to the significance of general intelligence implied by Becker (2003), they state "Obviously, cognition is important, but we argue that, for too long, the emotional dimension has been a neglected variable in organizational behaviour." (Jordan et al, 2003:1) They then refer to Becker's (2003) citation of Carroll's (1993) work and point out that this work was conducted ten years ago based on the available empirical research then. They underlined the fact that research conducted thereafter have furthered comprehensions relating cognition and emotion, and have presented EI as a fresh field of research "which has the potential to increase our understanding of intelligence and its role in organizational settings, ...which extends beyond Carroll's (1993) concept of ability" (Jordan et al, 2003: 2).

While addressing the second criticism, Jordan et al (2003) first highlighted the fact that EI has progressed from Weick's (1989) variation stage and that the understanding of EI is being founded on Mayer and Salovey's (1997) definition which is "the ability to detect and to manage emotional cues and information"

(2002, 362)” (As quoted in Becker, 2003:1). They state that this is being referred to as the standard definition for academic purposes. “This status is reflected in the inclusion of Mayer et al. (2001) in the inaugural issue of the new APA journal, *Emotion*” (Jordan et al, 2003: 2). Regarding the issue of the measurability of EI raised by Becker (2003), Jordan et al (2002) replied that the experiments performed by Davies, Stankov and Roberts (1998) encompassed only initial measures that had been developed, all of which did not necessarily claim to be absolute themselves. It did not include later measures invented based on Mayer and Salovey’s (1997) definition namely “ability assessment (e.g., MSCEIT [Mayer, Salovey, Caruso, & Sitareneos, in press]) and self-report (e.g., WEIP [Jordan, Ashkanasy, Hartel, & Hooper, 2002])” (Jordan et al, 2003: 2).

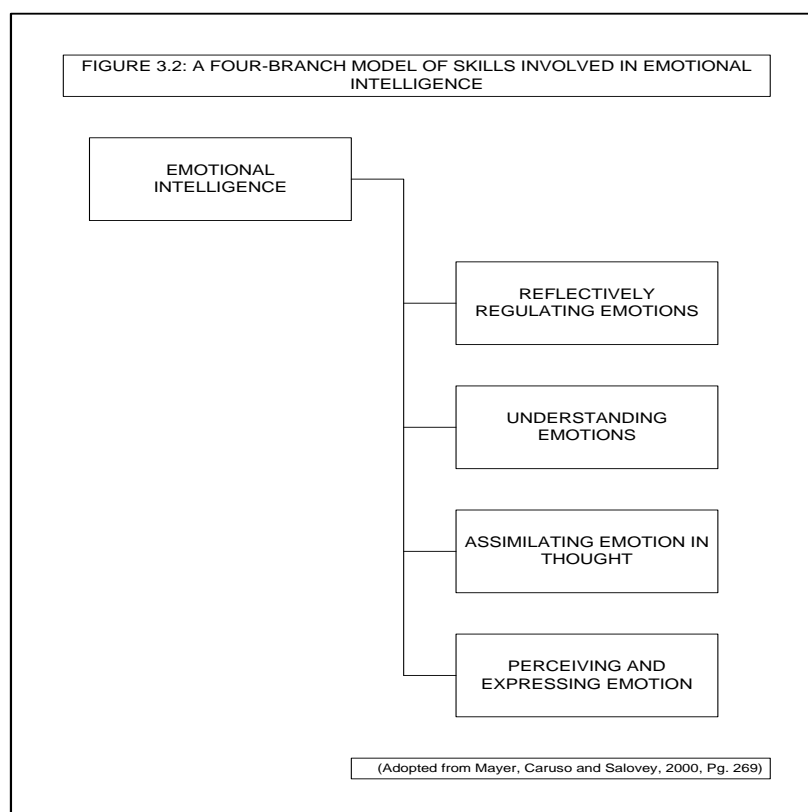
They also replied that the argument saying, lack of measurement invalidates the existence of a construct (Becker, 2003), is not justifiable. If this were so, numerous organisational behaviour theories would have never been indicated at all. They further highlight that although IQ measurement has been researched for over many more decades compared to EI, yet it is still subject to numerous debates (Jordan et al, 2003: 2).

Mayer & Salovey (1997) derived a four-branch model exhibiting the skills encompassed by EI. They operationalised EI as a hierarchical model having four branches and ranging from the basic psychological processes to the higher psychologically integrated processes (figure 3.2)

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[Please Turn Over]

Figure 3.2: Four-Branch Model of Skills Involved in Emotional Intelligence



Mayer and Salovey (1997) portray the first and foremost EI skill as being the ability to perceive, appraise and express emotions. The subsequent skill involves the impact of emotions on thought processes, aiding intellectual functioning. The third skill involves comprehending and evaluating emotions and utilising such emotional knowledge. Finally they focus on the conscious coordination of emotions to augment the nurturing of emotions and intellect. This includes developing receptiveness to various emotional reactions irrespective of them being pleasant or unpleasant, and learning to express one's emotions in a manner appropriate in a situation.

Mayer and Salovey (1997) state, "Reasoning that takes emotions into account is part of what we have referred to as *emotional intelligence*" (Mayer & Salovey, 1997: 4). To exist as an individual intelligence in the psychological domain, the construct must be concretely defined, measurable, partially or totally independent of other intelligences and capable of predicting. An individual intelligence must demonstrate a relative preferably low level of correlation with some other intelligence. A high level of correlation will make the two intelligences very similar if not identical and

will not award the construct being tested the status of a separate intelligence whereas nil correlation will nullify the possibility of the construct being an intelligence at all.

Mayer and Salovey (1997) tried to assess and measure EI, in order to arrive at a conclusion on the issue of whether EI is a single monolithic intelligence, a collection of various skills independent of general intelligence or something else.

They state that the assessment study should demonstrate direct measurement of the ability rather than scoring based on self description of an individual's EI. However here they do not nullify the research value of self-description or self-assessments but underline that it would not be sufficient to decide the absolute existence of a construct. Another criterion insists on the exhibition of a relation between multiple abilities encompassed by the construct "or one or more emotionally intelligent abilities to an important criterion" (Mayer & Salovey, 1997: 16). They cite earlier work (Mayer et al., 1990) carried out recognising emotions in facial expressions, designs and colours and that by Mayer and Geher (1996) illustrating emotional understanding and attitude towards characters in different circumstances. They conclude by arguing, "...using the emotions as one basis for thinking, and thinking with emotions themselves, may be related to important social competencies and adaptive behaviour" (Mayer & Salovey, 1997: 22).

The potential of EI to behave as a predictor has also been analysed. "Given that emotional intelligence has been studied so little, not much is known about what it predicts." (Mayer & Salovey, 1997: 17) However the psychological arena recognises that general intelligence is responsible for 10% to 20% of some aspects of success (mainly in academic and occupational milieus). Therefore the remaining is contributed to by other factors, a part of which may be EI. Thereby demonstrating the high possibility that EI can and may predict success and achievement levels. Subsequent research by Dulewicz and Higgs (1999) has demonstrated the predictive capability of EI. Schutte et al's (1998) discriminant validity supports the existence of EI as a distinct construct which should ideally exhibit a low level of correlation with other intelligences but not so high a correlation to become redundant as a separate intelligence.

Mayer, Salovey and Caruso's (2000) works contribute substantially to demonstrating that EI is indeed a scientifically legitimate intelligence. They utilised the 'Multifactor Emotional Intelligence Scale' derived by Mayer, Salovey and Caruso (1997) to test whether EI satisfied the traditional criteria for being considered an exclusive construct of Intelligence in itself. They studied two different samples, adults (N=503) and adolescents (N=229) to meet three traditional criteria of intelligence, namely to prove that EI comprises a collection of mental abilities, that it exhibits certain correlational requisites of being moderately inter correlated with other intelligences and that they show the trends of growing or developing with age and time. The tests satisfied the enumerated pre-requisites. They state, "First, emotional intelligence could be operationalized as a set of ability tests. Second, performance on those ability tests was intercorrelated and partly distinct from verbal intelligence against which they were compared. Third, EI was shown to grow from early adolescence to young adulthood. Collectively, these findings bring us a major step forward toward demonstrating a plausible case for the existence of this intelligence. The data also tell us about the structure of emotional intelligence, and what it might predict" (Mayer, Caruso, Salovey; 1999: 269).

3.6 THE EMOTIONAL MENSA: MEASUREMENT OF EI?

Until recently, researchers were yet to establish a consensus on the measurability of EI (Dulewicz & Higgs, 2000), the argument being that "the somewhat complex and diverse nature of emotional intelligence militates against its effective measurement" (Dulewicz & Higgs, 2000: 350). One group believed that an absolutely rigorous and robust measure is yet to be invented (Goleman, 1996, 1997a; Steiner, 1997; Hein, 1997); while some people argued that EI can be measured and have devised valid and reliable measures (Bar-On, 1997; Dulewicz & Higgs, 1999). Thus opinions are divided.

Goleman (1996) believed that probably a pencil-and-paper test identifying a person's EI score would never be possible, "there is, as yet, no single pen-and-pencil test that yields an "emotional intelligence score" and there may never be one" (Goleman, 1996: 44). Nonetheless, subsequently he was involved in developing an EI

instrument. Steiner (1997) held a similar opinion advocating EQ as a marketing concept. “An emotional quotient can’t be measured and scored like an intelligence quotient... We can meaningfully speak of EQ as long as we don’t claim to be able to measure it precisely” (Steiner, 1997: 23). Martinez (1997) suggested assessing EI based on feedback from superiors and subordinates. However, works of Bar-On (1997), Dulewicz and Higgs (1999), Mayer and Salovey (1997), strongly supported the measurability of EI.

Yet again Woodruffe (2001) believed that EI is only a new brand name for competencies which have been established long ago. Similarly Robertson and Smith (2001) were of the opinion that criterion related validity of EI has not been demonstrated in the scientific literature. However, Dulewicz, Higgs and Slaski (2003) and Mayer, Caruso and Salovey (2000) have provided evidence to the contrary. In the words of Dulewicz, Higgs and Slaski (2003), “While Goleman (1996) debated the feasibility of operationalising the construct, Bar-On (1997a, b), Mayer et al. (1999) and Dulewicz and Higgs (2000a) produced questionnaires which are widely used in the USA and UK to measure the construct” (Dulewicz, Higgs & Slaski, 2003: 405). In the last two decades a plethora of EI measures have been invented and introduced, representing slightly unique models of EI. Two distinct styles of measuring EI have emerged. The first style is referred to as ‘performance-based measure’; the second style entails ‘self-report measures’. The following section investigates the different EI models and the psychometric instruments currently measuring them.

3.7 EI STREAMS, MODELS AND THEIR MEASURES

After Mayer and Salovey (1997) finalised their conceptualisation of EI (discussed in section 3.5), further models and measures of EI have been developed. Within this variety of models, gradually the emergence of two slightly different perspectives is noticeable within the EI literature. These are the ‘ability-based’ perspective of EI and the ‘mixed-model’ perspective of EI pioneered by Mayer and Salovey (1997) and Reuven Bar-On (1997) respectively (Daus & Ashkanasy, 2005; Mayer et al., 2000).

The mixed-model faction has also been labelled as personality-models and trait-models of EI. This thesis refers to the latter group as mixed EI models.

A number of classification systems and categories have emerged. While differentiating between ability models and mixed-models, Mayer et al. (2003) explain ability models as highlighting the association of “emotion and intelligence as a *skill*”, while mixed-models encompass “mental abilities, dispositions and traits” (Mayer et al., 2003 cf. Mishra & Mohapatra, 2009: 89). Mishra and Mohapatra (2009) have classified the models based on their perception of the three most popular EI models (Mayer and Salovey, 1997; Bar-On, 1997; Goleman, 1998) into ‘ability model’, ‘mixed ability model’ and ‘personality model’ respectively. They also include the Higgs and Dulewicz (2000) model in the mixed ability model group. Petrides and Furnham (2001) recommend categorising EI models as being ability-based or trait-based. According to this classification, trait EI involves being measured by self-report instruments and typically investigating preferred behavioural approaches. As in the previous cases, ability EI is considered to involve high level performance in cognitive emotional information processing. Trait EI is considered to overlap with personality factors.

EI models have also been classified on the basis of the methods of measuring the different EI models (Van Rooy & Viswesvaran, 2004; Christiansen et al., 2010). The main measurement methods are performance-based and self-report. Some self-report measures also allow for observer ratings. Some authors argue that only performance based measures represent Mayer and Salovey’s (1997) ability measure; where the respondents’ answers are matched to predetermined ‘correct’ answers to adjudge the respondents EI score or EQ. These authors classify all self-report measures of EI as measuring mixed EI models (Van Rooy & Viswesvaran, 2004; Joseph & Newman, 2010).

This thesis differentiates between performance-based measures of EI and self-report measures of EI for both ability and mixed EI streams. Some researchers suggest a system of categorising EI models and measures by combining the ‘construct’ (i.e. whether it is an ability model or mixed/personality/trait based model) with the ‘method’ of measurement (i.e. whether the method of measurement is performance-

based or self-reported). There are no performance-based measures of mixed/personality EI models; hence this classification system yields three EI streams: performance-based ability EI (Stream 1), self-reported ability EI (Stream 2) and self-reported mixed EI models (Stream 3) (Ashkanasy & Daus, 2005; Joseph & Newman, 2010).

3.7.1 ABILITY EI VERSUS MIXED-MODEL EI CHARACTERISTICS

This section enumerates the similarities and differences between ability and mixed EI models. The specifics of the various EI models have been discussed in subsequent sections.

The ability based EI perspective stems from the research of Mayer and Salovey (2000) who perceive EI as a branch of intelligence entailing the abilities to think, perceive, understand, appraise, discriminate and identify emotions pertaining to oneself and others. This stream, perceives EI as distinct and discriminant from personality traits. Mayer and Salovey's (2000) four branch EI model represents the foundation for the construct of EI and particularly that represented by the ability based faction of EI.

The mixed-model EI perspective has been pioneered predominantly by the works of Goleman (1996) and Bar-On (1997). Within this stream, EI is awarded a wider connotation by including aspects of personality along with abilities. These models build upon the ability based model of EI and include facets of personality, competencies and traits within their comprehension of the construct of EI.

The key distinguishing feature of the ability stream of EI is its perception of EI as a form of intelligence. In contrast the remit of mixed EI presents EI as more than intelligence through the tendency to encompass personality and competency factors (Petrides and Furnham, 2001). Ability EI specifically associates itself with cognitive phenomena; however the most popular mixed-model propagated by Bar-On (1997) defines EI as "an array of noncognitive capabilities, competencies and skills" (Bar-

On, 1997: 14). Cartwright and Pappas (2008) summarise that ability EI is presented as a form of crystallised intelligence encompassing emotion. On the other hand, mixed EI models merge EI with elements of well-being, motivation and personality. Ability EI models explicitly show an increase in EI with age, but trait EI measures do not necessarily demonstrate increase in EI with age (Hemmati et al., 2004). It is arguable that ability EI is conceptually strongly related to cognitive information processing and distinct from personality constructs while mixed EI models are visibly interlinked with the personality constructs and may not necessarily relate to cognitive elements.

Ferres and Connell (2004) endorse Ciarochi et al.'s (2000) viewpoint and state that the different conceptualizations and measurement instruments of EI "overlap with respect to the areas of emotion perception, understanding, utilization and management" (Ferres & Connell, 2004: 64). Nonetheless, within this thesis, an attempt will be made to take a closer look at the apparent dichotomy in the representation of the common construct of EI, primarily with the aim to ascertain any noticeable diversity in the manner in which the two different representations of EI influence and impact upon change oriented leadership encompassed in the FRL model. The key EI models and measures are reviewed in the following sections.

3.7.2 ABILITY BASED MODELS AND MEASURES OF EI

The definitive 'ability EI model' is Mayer and Salovey's (1997) four branch EI model. Some other EI models are conceptually very similar to Mayer and Salovey's (1997) EI model and on the face of it do not expand to include personality and trait facets, concentrating on mental and cognitive processes in emotional functioning. These include Schutte et al.'s (1998) EI model and Palmer and Stough's (2001) Swinburne University Emotional Intelligence model. This section reviews the key models this thesis classifies as ability EI models and their measures.

3.7.2.1 MAYER AND SALOVEY EI SCALE REVIEW

Salovey and Mayer (1990) introducing the construct of EI categorised emotional information processing as, “a) appraising and expressing emotions in the self and others, b) regulating emotion in the self and others, c) using emotions in adaptive ways” (Salovey & Mayer, 1990: 190-191).

This initial model is tested by the ‘Multifactor Emotional Intelligence Scale’ (MEIS). This and the MSCEIT (discussed in 3.8.2.2) are the only objective, actual measure of EI and is not reliant on the self-report technique (Dulewicz et al., 2003). This test addresses a varied range of behaviours “from perceiving emotions in faces to identifying the best course of action to manage someone else’s emotions” (Lazarte, 2003). Therefore this instrument concerns itself with testing emotional expressions as well as emotional management. The four major constituents of the MEIS are emotional perception, emotional facilitation of thought, emotional understanding, emotional management (Mayer et al., 2000a; Lazarte, 2003). Here the test-taker has to carry out tasks, designed in order to examine the above (Cherniss, 2000).

Lazarte (2003) reported reliable subscales in the MEIS. Correlations to a certain extent have also been demonstrated between the MEIS measure and criterion measures of EI, like intelligence concepts, empathy, life satisfaction and parental warmth. Ciarrochi et al (2000) discovered that the MEIS subscales exhibited acceptable reliability levels of emotional factors. However, their study also revealed that this was lower than the reliability scores that Mayer and his co-researchers had originally published. In Davies et al.’s (1998 in Saarni, 2000) works studying the discriminant and convergent validity of a number of EI instruments; the conclusion regarding the MEIS was that this instrument did measure EI by “assessing emotional perception through “correct” identification of facial expressions” (Davies et al.’s, 1998: 82) however, they inferred that its reliability level was low.

Despite its advantages, the administration of this instrument can be complex. This questionnaire requires sophisticated tools including computers and software, which can be cumbersome in data collection from distant geographical locations. Normally, the test is expected to take two hours to complete which in itself is too long

especially where a large sample is being employed to conduct the research as in this case (see section 6.6.4.). The test can also be administered in its interactive form. Although this approach would be innovative, it would be complicated and difficult to utilise this technique with a large population (Lazarte, 2003; Jordan et al, 2002). Therefore, having considered the administration difficulties, it was apprehended that for this research it will not be possible to collect sufficient data within the time constraints applicable to this investigation, via the MEIS instrument. Hence, one of the other existing instruments will be employed in this research study.

3.7.2.2 MAYER, SALOVEY AND CARUSO EI MODEL AND TEST REVIEW

Salovey and Mayer's (1990) EI model was revised and presented as the now popular four branch EI model (Mayer & Salovey, 1997). They operationalised EI as a hierarchical model having four branches and ranging from the basic psychological processes to the higher psychologically integrated processes. This entailed (a) emotional awareness (b) facilitating emotions (c) understanding emotions and (d) managing emotions (Mayer & Salovey, 1997). Emotional awareness is the ability to perceive, appraise and express emotions. Facilitating emotions involves the impact of emotions on thought processes, aiding intellectual functioning. Understanding emotions encompasses comprehending and evaluating emotions and utilising such emotional knowledge. Finally managing emotions refers to the conscious coordination of emotions to augment the nurturing of emotions and intellect. This includes developing receptiveness to various emotional reactions irrespective of them being pleasant or unpleasant, and learning to express one's emotions in a manner appropriate in a situation.

This EI model is measurable by the MSCEIT⁹ and Wong and Law's (2002) EI test. The MEIS and the MSCEIT are the only performance based measures, whereby the MEIS MSCEIT has been improved and developed upon the original version, the MEIS. Therefore, currently, the MSCEIT is the performance-based ability EI measure in use. Wong and Law's (2002) test is a self-report measure.

⁹ MSCEIT stands for the Mayer-Salovey-Caruso Emotional Intelligence Test developed by Mayer, Salovey and Caruso (2000).

There are 141 questions, clustered into eight sections. It aims to ascertain the extent to which a person is capable of carrying out tasks as well as solve emotional difficulties and predicaments. The MSCEIT is scored using consensus and expert scoring methods. Consensus scoring involves matching the replies of the respondent to the answer with the maximum frequency according to the normative sample of over 5000 participants. The normative answer is considered the 'correct' answer. Expert scoring encompasses the 'correct' answer according to experts or researchers in the field of emotions. The consensus and expert scores have demonstrated a high degree of convergence ($r > 0.9$) (Mayer et al., 2003). To arrive at the EI score of individuals taking the MSCEIT test, their responses are matched to the consensus and expert answers.

Internal consistency reliability of the MSCEIT has been reported to range from 0.90 to 0.96 (Mayer et al., 2004a) and individual branch scores ranged from 0.76 to 0.98 (Daus & Ashkanasy, 2005).

McEnrue and Groves (2006) criticise the content validity of the MSCEIT and state that "there appears to be a gap between the model and what the test measures" (McEnrue & Groves, 2006: 16). They surmise that the test does not necessarily gauge some of the 'abilities' propounded in the four branch EI model. Discriminant and convergent validity of the MSCEIT has been demonstrated in various studies (Daus & Ashkanasy, 2005; Ashkanasy & Daus, 2005; Brackett et al., 2005). MSCEIT has shown that it is unique in comparison to cognitive measures and overall has shown only slight to moderate correlations with personality factors (McEnrue & Groves, 2006; Salovey et al., 2003). Correlations with other EI measures have been low ranging from 0.12 to 0.29 (McEnrue & Groves, 2006). McEnrue and Groves (2006) conclude that face validity of the MSCEIT is inadequate with the use of abstract pictures and abstract questions on sensations. Predictive validity has been demonstrated to some extent on a number of studies, while some studies have failed to show predictive validity (McEnrue & Groves, 2006). Nonetheless, studies have displayed predictive validity of the MSCEIT and performance (Daus et al., 2004), leadership (Rubin et al., 2005) and organisational citizenship behaviour (Day & Carroll, 2004) (McEnrue & Groves, 2006). Although Palmer et al. (2005) found higher female scores on the MSCEIT (further explored in the discussion on gender

and EI in this thesis); McEnrue and Groves (2006) point out that external validity of the MSCEIT is low and caution should be exercised while using it in non-western settings. However McEnrue and Groves (2006) also conclude that the MSCEIT demonstrates greater content and construct validity in comparison to many mixed EI measures.

While free from self-reporting and social desirability bias – the system of scoring has been questioned. The construct is considered reliable however the method of measurement is not considered robust by all researchers. Palmer et al. (2005) found no association between the MSCEIT and age; this does not comply with the requirement of intelligence increasing with age – a prerequisite of classifying a construct as an intelligence. The MSCEIT suffers from a strong lack of face validity (McEnrue & Groves, 2006). The MSCEIT is also most suited to North American and by extension to western cultures. This may not be suitable in non-western cultures (Wong et al., 2004).

Furthermore, the use of the MSCEIT may necessitate the need for the test to be conducted in more than one phase, which increases the length of time to complete the test (Ciarrochi et al., 2000). In addition, this instrument is a long instrument with 141 items and takes a long time to complete. This coupled with financial constraints prevented the researcher from using this instrument in this PhD study.

3.7.2.3 SCHUTTE ET AL.'S SELF REPORT EI TEST REVIEW

Schutte et al. (1998) developed the Self Report EI Test (SREIT) containing 33-items. This represents an ability EI model. This measure is based on the Salovey and Mayer's (1990) original ability EI model. The scales measured by the SREIT are appraisal and expression of emotion in the self and others, regulation of emotion in the self and others and utilization of emotions in solving problems.

The Cronbach alpha reported for the 33-item SREIT is 0.90 and 0.87 with two separate samples of respondents. Test-retest reliability was 0.78 (Schutte et al., 1998).

Predictive validity was evidenced for the SREIT and academic grades in a longitudinal study. Discriminant validity was evidenced between the SREIT and the verbal and mathematical scores on the SAT examinations representing cognitive ability associated with college aptitude. In order to ensure non-redundancy as a construct and measure; the SREIT needed to display discriminant validity from the Big Five personality dimensions. Significant correlation was reported between the higher SREIT scores and openness to experience, $r(22) = 0.54$, $p < 0.009$. Correlations between the SREIT and the remaining Big Five dimensions were non-significant (Schutte et al., 1998).

The SREIT is open to influences of social desirability and faking. Schutte et al. (1998), therefore advise against employing the SREIT in job selection settings. Furthermore, as the SREIT measures a model of EI which the developers themselves have improved upon, it was considered prudent not to use this model and measure for this study.

3.7.2.4 SELF REPORT WLEIS REVIEW

Wong and Law (2002) developed a 16-item self-report measure of ability EI known as the Wong and Law EI Scale (WLEIS). This instrument is essentially built on Davies et al.'s (1998) EI dimensions which closely resemble Mayer and Salovey's (1997) four branch EI model and Ciarrochi et al.'s (2000) synopsis of four key EI areas. The key areas measured by the WLEIS are 'appraisal and expression of emotions in oneself', 'appraisal and recognition of emotions in others', 'regulation of emotion in oneself' and 'use of emotion to facilitate performance' (Law et al., 2004). The response format consists of a 7-point Likert scale.

The internal consistency reported ranges from 0.78 to 0.89 (Mishra & Mohapatra, 2009). Coefficient alpha for the individual WLEIS dimensions were high ranging from 0.69 and 0.84 (Law et al., 2004). In a sample from Hong Kong, the reliability coefficient alpha obtained was 0.91 (Wong et al., 2004).

The WLEIS has shown overall construct validity with reasonable discriminant validity from personality factors (Wong et al., 2004; Law et al., 2004). This also provided evidence for predictive validity for job performance after controlling for Big Five personality facets (Law et al., 2004). Law et al. (2004) also provided evidence confirming construct validity of the EI model measured by the WLEIS (Law et al., 2004). The WLEIS demonstrated predictive validity for life satisfaction, sales performance and job performance (Wong et al., 2004).

Similar to any self-report psychometric instrument, the WLEIS is susceptible to social desirability bias. Respondents may also fake their answers if the motivation exists, for example in job application and promotion settings (Wong et al. 2004). In order to carry out this PhD study, the researcher had to seek ethical approval from the NHS Research Ethics Committee. This process took nearly a year. At the time of seeking this approval, the WLEIS was a very new instrument which had just made its appearance in the public domain and had been employed and tested mainly in the Asian domain. Therefore, the researcher chose to adopt EI instruments which had already established its reliability and validity in the public domain and in western contexts.

3.7.2.5 SWINBURNE UNIVERSITY EI MODEL REVIEW

This thesis perceives the Swinburne University Emotional Intelligence model as closely aligned with the ability EI perspective. The major EI factors measured by the SUEIT test are ‘Emotional Recognition and Expression (in oneself)’, ‘Understanding Emotions’, ‘Emotions Direct Cognition’, ‘Emotional Management’ and ‘Emotional Control’ (Palmer & Stough, 2001). All these factors are identical to those identified by Mayer and Salovey (2002) with the exception of ‘Emotions Direct Cognition’. This model has also been created specially to investigate EI within the workplace unlike Mayer and Salovey’s model (Palmer & Stough, 2001). This model is measured by the Swinburne University EI Test (SUEIT) representing Stream 2. This measure has been adopted to examine the association between EI and leadership in this thesis. The SUEIT has demonstrated reasonable and acceptable levels of reliability and validity.

The Swinburne University Emotional Intelligence Test (SUEIT) developed by Palmer and Stough (2001) is a 64-item self-report questionnaire created exclusively to measure individuals' EI in the workplace. This is "a self-report EI inventory that indexes the way people typically think, feel and act with emotions at work according to an empirically based five-factor model of EI developed by Palmer and Stough (2001)" (Palmer, Gardner & Stough, 2003: 141). Participants are required to indicate the extent to which each item is true of the participant in relation to his/her workplace, on a Likert scale of 1 to 5 where 1 stands for never and 5 stands for always. An overall EI score is obtainable from the instrument along with five factor specific scores. The instrument has also been designed in such a manner so that inconsistent response patterns and illogical responding styles may be identified. This instrument was created through a factor analytic study of all the EI measures extant at the time (including ability and mixed-models) to produce "the most definitive dimensions of the construct" of EI. The measures included in the factor analysis were Mayer, Salovey, Caruso Emotional Intelligence test (MSCEIT, Mayer, Salovey & Caruso, 1999), the Bar-On Emotional Quotient Inventory (Bar-On, 1997), the Trait Meta-Mood Scale (Salovey et al., 1995), the twenty item Toronto Alexithymia Scale-II (TAS – 20; Bagby, Taylor & Parker, 1994), Scutte et al's (1998) EI scale and Tett et al's (1997) EI scale. Palmer and Stough (2001) point out that these five factors comprise the empirically founded unidimensional SUEIT model of EI where "the factors represent a set of related abilities concerning how effectively emotions are dealt with in the workplace" (Palmer & Stough, 2001).

This large factor analytic study was conducted on an Australian sample, representative of the Australian general population. The aim was to identify the most definitive constituents of EI (Klem & Schlechter, 2008). Each of the scales were factor analysed individually and the component score coefficients made up the individual dimensions for each test. Thereafter a larger principal components analysis was conducted employing each of the dimensions identified as 'items'. "Five factors had eigen values greater than one, a result that matched the scree criterion and accounted for 58% of the total variance" (Palmer & Stough, 2002, tmv2). These five factors obtained from the factors of the six EI tests, loaded on as the five factors of the SUEIT model mentioned earlier: 'Emotional Recognition and

Expression (in oneself)', 'Understanding Emotions', 'Emotions Direct Cognition', 'Emotional Management' and 'Emotional Control'. Palmer and Stough (tmv2) point out that these five factors comprise the empirically founded unidimensional SUEIT model of EI where "the factors represent a set of related abilities concerning how effectively emotions are dealt with in the workplace" (Palmer & Stough, 2002, tmv2). Two sets of normative data are available for the SUEIT, one is of the general population and the other is of people in executive positions.

These five factors of the SUEIT are explained here. 'Emotional Recognition and Expression' refers to an individual's ability to perceive and recognise their own feelings and emotional status as well as the ability to outwardly express these emotions and feelings to other people. 'Understanding Others Emotions' encompasses the ability of a person to detect, distinguish and comprehend other people's emotions and those emotions that emerge as a reaction to the work environment, staff meetings, literature, artwork and so on. 'Emotions Direct Cognition' pertains to assessing the degree to which emotions and knowledge of emotions informs and is applied in decision-making and problem-solving processes. 'Emotional Management' comprises the ability of an individual to manage and regulate both positive and negative emotions within oneself and other people. Finally, 'Emotional Control' entails the ability of a person to successfully control strong emotional experiences and states at work including anger, stress, anxiety and frustration (Palmer & Stough, 2002).

Normative data-sets are available for the general and executive population for the SUEIT. Internal consistency reliability for the general population has been reported at 0.88 and that for the executive population has been reported at 0.91. Furthermore, the test-retest reliability for this instrument has been reported as 0.95, at $p < 0.001$ (Palmer & Stough, 2002, tmv2). Therefore both internal consistency and test-retest reliability for the SUEIT has been found to be extremely high, rendering this a highly reliable instrument. Moreover, the SUEIT has demonstrated highly acceptable levels of validity through adequate inter-item correlations for each EI dimension along with demonstrating discriminant validity from elements of the Big Five personality factors with low level correlations ranging from 0.09 to -0.47. These scores support the

claim that the SUEIT is measuring a novel and unique construct distinct from personality (Palmer, Gardner & Stough, 2003).

The above review shows that the SUEIT is a reliable and valid psychometric instrument. It is designed for assessing EI in relation to the workplace. The instrument has a 360 degree version and may be employed with self-raters and other-raters. Furthermore this instrument arguably represents Stream 2 of self-report EI measures of ability EI. Therefore, this instrument is considered suitable for this research. More details on the reliability and validity of the SUEIT have been discussed in the Methodology chapter.

3.7.3 MIXED-MODELS AND MEASURES OF EI

This section presents the Stream 3 set of EI models/measures, essentially self-report mixed-models of EI. This has been pioneered predominantly by the works of Goleman (1996) and Bar-On (1997). The major models being Goleman's (1998) Emotional Competency framework measured by the Emotional Competency Inventory (ECI) and Bar-On's (1997) model on EI measured by the Emotional Quotient Inventory (EQ-i) (1997). Some of the key mixed EI models have been reviewed here.

3.7.3.1 BAR-ON'S EI MODEL AND EMOTIONAL QUOTIENT INVENTORY (EQ-i)

The Bar-On EQ-i has displayed positive correlations with the Big Five personality factors of Extraversion, Conscientiousness, Openness and Agreeableness and a negative correlation with Neuroticism. Here, personality factors significantly predicted EQ-i, however, a considerable part of EQ-i was unexplained by the Big Five (Arteche et al., 2008).

This is a 133 item self-report questionnaire developed by Reuven Bar-On (1997) based on twenty years of research conducted around the world. Participants are required to respond on a five point Likert scale ranging from 'Not True of Me' to

'True of Me'. It encompasses four validity scale scores, a total EI score, five composite scores and fifteen EI subscale scores (Bar-On, 1997). A high score indicates an emotionally intelligent person and a low score indicates specific areas where an improvement of emotional skills is required (Bar-On, 1997).

The Bar-On EQ-i has been assessed to ascertain its psychometric properties relating to reliability and validity. The Cronbach's alpha has been calculated to examine the average internal consistency of the instrument which has been reported as 0.76 thereby generally indicating a very good reliability (Bar-On, 1997). The test retest reliability of the instrument has also been examined by employing two groups of South African subjects where one group took the retest after one month and the second group took the retest after four months yielding reliability coefficients of 0.85 and 0.75 respectively implying adequate reliability. The validity of this instrument has also been rigorously evaluated. The construct validity of this instrument has been assessed by correlating its subscale scores with several other measures. These correlation coefficients have ranged from 0.30 to 0.70 thereby providing sufficient evidence to support the EQ-i instrument's construct validity. While the scores are high enough to support that the scales of this instrument is measuring what it purports to measure, in this case, EI; simultaneously they are not so high to suggest that the instrument is a duplication of any other existing measure. Additionally, the Bar-On EQ-i technical manual also reports the instrument to demonstrate adequate and ample convergent validity, divergent validity and predictive validity (Bar-On, 1997; Douglas et al., 2004). In a study conducted by Dawda and Hart (2000) employing a sample of 243 university students, results also provided support for the reliability and validity of the EQ-i instrument.

Despite the above, the EQ-i has not demonstrated sufficient discriminant validity (Conte, 2005). Furthermore, there is a lack of studies demonstrating incremental predictive validity of this instrument over cognitive ability and the Big Five personality factors (Conte, 2005). In addition, this instrument was not freely available for use in the public domain and financial constraints added to the preclusion of employing this instrument in this study.

3.7.3.2 EMOTIONAL COMPETENCY FRAMEWORK AND THE EMOTIONAL COMPETENCY INVENTORY (ECI)

Goleman, Boyatzis and the Hay Group developed the 360 degree multirater Emotional Competence Inventory (ECI) measuring 20 competencies in four clusters: Self Awareness, Social Awareness, Self Management, and Relationship Management. They define emotional competence as “a learned capacity based on emotional intelligence that contributes to effective performance at work” (Sala, 2002). Respondents indicate the frequency of the demonstration of 63 different types of behaviour on a Likert scale of one to five; where one indicates ‘never’ and five stands for ‘consistently’; focusing generally on their perceived challenges levels of emotional competencies (See ECI - University Edition by Goleman, Boyatzis and the Hay Group).

Internal consistency reliability for the self-rating ECI scales was reported to range from 0.61 to 0.85 (Conte, 2005). For the 360 degree version, internal consistency reliability has ranged from 0.8 to 0.95 (Sala, 2002; Conte, 2005). Test-retest reliability was acceptable for participants who took the ECI test twice with 7 months gap (Sala, 2002).

Examination of the ‘Accurate Self-Assessment’ subscale of the ECI showed that respondents scoring in the bottom 25 percent in their total other scores category also showed a significantly bigger average difference between self scores and total others scores. Also participants who scored low in ‘Accurate Self-Assessment’ tended to award themselves higher ratings than others. The vice versa pattern also appeared, though the gap was comparatively less (Sala, 2002). Hence, though this provides some content validity evidence, being based on a single piece of research, the evidence is inconclusive.

Diamantopoulou (2001) investigated the relationship between personality types and EI but the construct validity hypothesis was not fully supported (Sala, 2002: 7) leaving it in need of stronger evidence. Burckle (2000) assessed the construct validity of the ECI, in association with the widely validated Myers-Briggs Type Indicator (MBTI) (1962). Pearson’s correlations (Sala, 2002) show moderate to strong

significant correlations between several competencies on the ECI and the MBTI (Sala, 2002) supporting construct validity of the ECI.

Murensky (2000) administered the NEO Personality Inventory – Revised (NEO-PI-R), the cognitive ability test called the Watson-Glaser Critical Thinking Appraisal (WGCTA – Form S) and the ECI. The NEO-PR-I measures the personality domains of neuroticism, extroversion, openness, agreeableness and conscientiousness (Costa & McCrae, 1992 as cited in Sala, 2002). There was significant positive correlation between extroversion and all four ECI clusters. Some correlation was exhibited between the ECI and openness and conscientiousness. However, there was little to no association between the ECI and neuroticism and agreeableness (Sala, 2002). This provides some evidence of convergent and discriminant validity. Replication will assist in increasing the strength of its discriminant validity. Correlations between the ECI and Managerial Style Inventory supported convergent validity.

The ECI instrument has demonstrated predictive validity with work and leadership performance (Sevinc, 2001). Respondents displaying EI reported experiencing greater job success and life satisfaction (Sala, 2002; Boyatzis & Sala, 2004). Nel's (2001 as cited in Boyatzis & Sala, 2004) study indicating a moderate association between EI of call centre agents and the performance in the call centres, (Boyatzis & Sala, 2004) supported criterion validity of the ECI. Humphrey, Sleeth and Kellett's (2001) study ascertaining the association of both empathy and cognitive ability with leadership connotations supported criterion validity too. Sergio (2001) discovered that "both cognitive and emotional ability/intelligence were independent and important contributors to performance at work" (Sala, 2002: 23). Hence, substantial evidence was obtained supporting concurrent validity of the ECI.

The above review shows that the ECI has received support regarding its predictive validity, criterion validity and concurrent validity. Although some support for the ECI's construct validity is available, yet some results have been contradictory and ambiguous. The content validity for this instrument needs further justification. Also the ECI is yet to be established as a reliable instrument with test-retest reliability. In the light of these conclusions, this thesis will not employ this instrument.

3.7.3.3 HIGGS AND DULEWICZ'S EI MODEL

Within this stream, the Higgs and Dulewicz (2002) mixed-model of EI has been specially designed to study the EI of individuals within a workplace environment. The EI factors encompassed in this model are 'Self Awareness', 'Emotional Resilience', 'Motivation', 'Interpersonal Sensitivity', 'Influence', 'Intuitiveness' and 'Conscientiousness and Integrity'. This is measured by the Emotional Intelligence Questionnaire (Higgs & Dulewicz, 2002). This questionnaire contains 69 items on Likert scales.

Dulewicz and Higgs' (1998a, 2000, 2000a, 2002) developed their EI model through a literature review of a number of EI and competency models extant at the time. Having reviewed these models, they attempted to generate a definitive model of EI. The model they developed is highly akin to the Bar-On (1997) and Goleman (1998) models of EI which are substantially non-cognitive and competence based. However it also represents the core profile of EI as revealed by their review of the EI literature. Their EI scale is based on 16 relevant competencies.

The actual items on the questionnaire itself provide the impression that it has been constructed for people who are at least a level above in the realm of hierarchies and have subordinates. Hence this instrument is considered suitable for use in this research.

The EIQ "showed very respectable internal consistency reliability, and add to our knowledge of the nature and composition of emotional intelligence" (Dulewicz & Higgs, 2000: 364). Reliability depicted by Cronbach's alpha was between 0.6 and 0.8 for all the EIQ scales. Cronbach alpha for the overall EIQ score was reported at 0.77 (Dulewicz et al., 2003). This demonstrates an acceptable level of reliability for the EIQ.

The wording of the items on the instrument provide face validity. Correlations between the EIQ and Bar-On's (1997) EQ-i provided construct validity for the EIQ (Dulewicz et al., 2003). The 16PF personality questionnaire, the Myers-Briggs Type Inventory, the Belbin Team Roles Inventory and the occupational personality

questionnaire were also employed to establish construct validity for the EIQ (Dulewicz et al., 2003). This further solidifies the EIQ models classified as a mixed-model of EI. The EIQ has also displayed some level of concurrent/criterion-related validity in relation to performance and advancement (Dulewicz & Higgs, 2000).

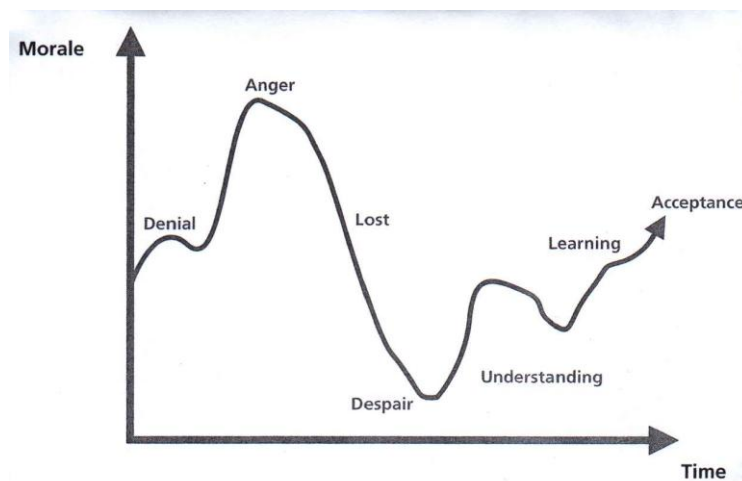
In the light of the established reliability and validity statistics for the EIQ and the fact that this instrument has also been designed through a review of the relevant existing literature and for the workplace; this model and instrument was considered appropriate to represent the mixed-model stream of EI, in this thesis. Furthermore, the researcher negotiated with the authors and copyright-holders if this instrument to use this it free of cost in the thesis. Therefore, the EIQ model and instrument was used to study EI alongside the SUEIT.

Despite differences in the level of detail portrayed there is a “relatively high degree of consensus on the domain of Emotional Intelligence” (Dulewicz & Higgs, 1998a: 4). Nonetheless, this thesis will employ two EI measures of the Swinburne University Emotional Intelligence model and the Higgs and Dulewicz (2002) Emotional Intelligence model to examine EI within the changing workplace environment of the NHS. Further justifications for using these instruments are provided in the methodology chapter.

3.8 EMOTIONAL INTELLIGENCE AND CHANGE

Efforts to incorporate significant changes within organisations can evoke a plethora of emotional experiences including shock, denial, anger, depression, anxiety which generally resist and do not welcome the change initiatives (Austin & Currie, 2003) as shown in the figure 2 below. Catalysing the development of EI will significantly help to cope with the changing ‘mental demands of modern life’ (Kegan, 1994) both in organisational and personal lives (Griffith, 1999).

Figure 3.3: The Grief and Loss



(Kubler-Ross, as adapted by the 'Improvement Leaders Guide - Managing the Human Dimensions of change: NHS Institute for Innovation and Improvement', 2005: 9)

Walsh (1995) indicates that more knowledge is required regarding the social and emotional contexts of transformation. Huy (1999) believes that the various facets of EI can assist in change and social adjustment in organisations. Welch (2003) upholds the importance of EI in changing environments. Welch (2003) contends that emotionally intelligent people and teams would be sensitive to transformation but would not resist change. EI enables people to support each other and adapt to changing circumstances (Welch, 2003).

Goleman, Boyatzis and McKee (2002) demonstrate to a degree, the role of EI in personal outcomes of transformations in organisations. George (2000) argues that an emotionally intelligent person (leader) would have a unique cutting edge in being able to successfully implement and achieve change in organisations. She elaborates that being emotionally intelligent enables a person to assess and affect other people's feelings productively, and thereby "effectively overcome resistance to change and transform an organisation in significant ways" (George, 2000: 1044).

Theoretically EI has been singled out as a significant component of contemporary leadership for effective facilitation of change (Ferres and Connell, 2004, Higgs & Rowland, 2002). EI enables an individual to be more in control of their emotional regulations, expressions and adaptabilities needed to institute change. Emotionally intelligent leaders are more capable of creating trust and co-operation in the

organisations by attaching themselves to the organisation's goals and promoting interpersonal relations ideal for transformations in organisations (Ferres and Connell, 2004). Therefore, this thesis addresses this gap by studying EI in the context of change.

3.9 EMOTIONAL INTELLIGENCE AND WORK OUTCOMES / PERFORMANCE

Increasingly academics and practitioners are linking emotions with organisations and recognising the potential of emotions and EI in reaping organisational benefits. Fineman (1997) argues that emotions play a major role in managerial learning not included in the traditional cognitive approach of management learning. Similarly Kolb et al (1994) recognises the role of emotional behaviour in managerial performance.

The driving force behind this corporate interest in EI include organisational change and volatility (Downing, 1997), search for "sustainable competitive advantage" (Dulewicz & Higgs, 2000: 341) (Cooper 1997; Goleman, 1996; 1997b; Cooper and Sawaf, 1997; Martinez, 1997; Harrison, 1997) and belief that 'people issues' can help develop this competitive edge (Senge, 1990; Ulrich & Lake, 1990).

Ashkanasy et al (2002), identify EI as affecting workplace performance. They concur that EI "...can have important implications for the selection and performance management of employees in organizations (see Fisher & Ashkanasy, 2000)" (Ashkanasy et al, 2002: 325). They acknowledge the need for more empirical evidence to encourage and substantiate the utility of this construct in business environments.

EI encompassing individual difference may be developed over time through explicit training and via one's own experiences. EI displays unique and personalisable properties. "The "one size fits all" approach to developing emotional intelligence competencies is ineffective as it ignores our individual complexities" (Dearborn, 2002: 525). The potential to develop EI through external training is evident from

Salovey and Mayer's (1990) recommendations of future research to "examine the acquisition of emotionally intelligent skills and interventions to promote them" (Salovey & Mayer, 1990: 202). Martinez (1997) report studies where some groups were trained to nurture their EI and some were not. Groups, which received training, demonstrated higher performance and productivity rates than others did (Dulewicz & Higgs, 1998a).

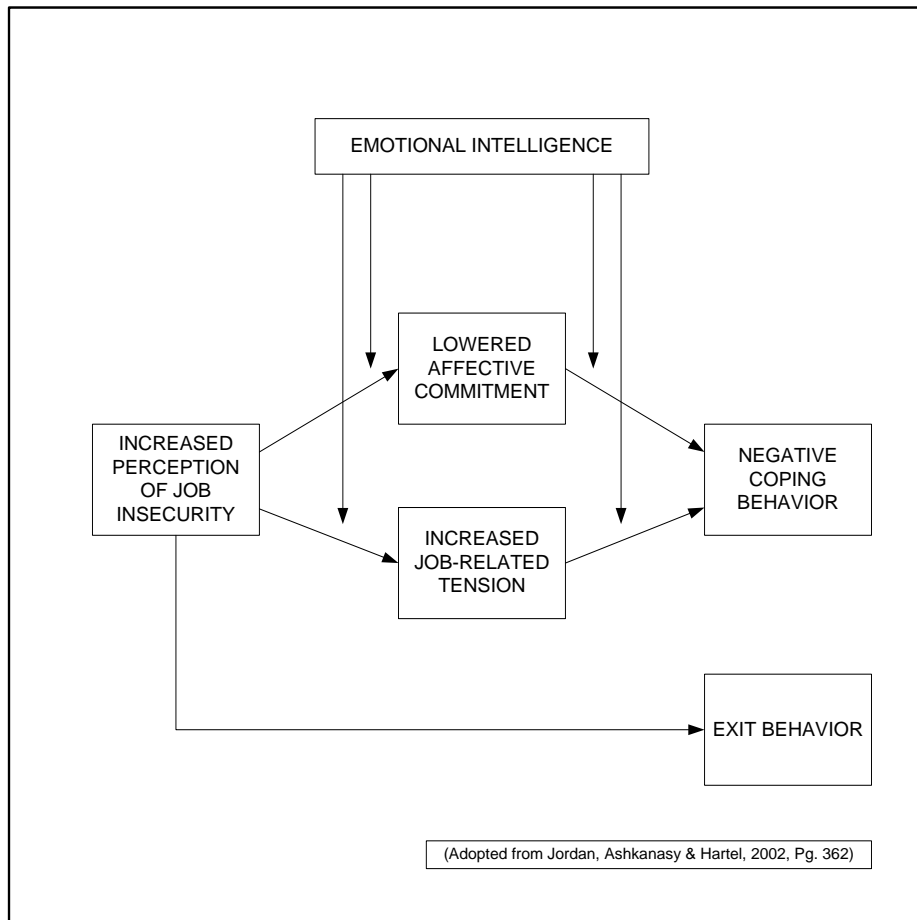
While linking cognition and emotion in corporate environments, Ashkanasy (2002a) views EI as a commendable tool modifying and improving emotional sensitivity, understanding and management in business environments. He endorses the suggestions to provide training to organisation workers to improve skills involving EI (Ashkanasy, 2002a; Ashkanasy & Daus, 2002).

Druskat and Wolff (2001) research on groups and teams, propounds the creation of "emotionally intelligent norms - the attitudes and behaviors that eventually become habits - that support behaviors for building trust, group identity, and group efficacy" (Druskat & Wolff, 2001: 81) for effective outcomes in organisations. It may also be inferred from her research that emotional management and thereby its effectiveness could be situation specific as well. Similarly, the latter, that is, the Team Effectiveness model tends to adopt a prescriptive appearance. Nonetheless the research reinforces the utility of EI in relation to team and group functioning.

Jordan et al's (2002) research on university teams concluded that low emotional intelligent teams can function better via training. However, Ashkanasy et al (2002) state that the work had its limitations because the sample comprised of students not actual managers and also because only the average of the team members' EI scores were considered. However, Williams and Sternberg (1988) also suggest that low EQ can affect group and team performance unfavourably. Prati et al (2003), also identified elements correlating EI and the effectiveness of team output in organisations. They support Druskat and Wolff's (2001) view of inculcating EI in teams to encourage holistic norms, trust, innovation and effective organisational working. EI can also be argued to minimise conflicts in organisational cultures (Ogilvie & Carsky, 2002; Allred et al, 1997).

Jordan et al (2002) associate EI with ‘Job Insecurity’. They identify EI to comprise of emotional perception, assimilation, understanding and management. Jordan et al (2002) promulgates that employees’ sense of job security is defined extensively by their level of EI. They posit a directly proportional relationship between the level of EI of an employee and the extent of job insecurity discerned by him or her and thereby their individual abilities and strategies of coping with their perceptions. Thus they propose the following model (figure 3.4).

Figure 3.4: A Model Linking Job Insecurity to Behaviour



Tomer (2003) identifies EI as an intangible component of human capital, main personal capital a contributory factor in economic growth as. He portrays personal capital as one that “relates to an individual’s basic personal qualities and reflects the quality of an individual’s psychological, physical and spiritual functioning [Tomer, 1996, 626-27, Tomer, 2001, 251]” (Tomer, 2003). Here an evaluation similar to EI is depicted. Tomer (2003) analyses EI in this context of economic development

drawing substantially on Goleman's (1995, 1998) works linking EI with business organisations. Tomer (2003) says, "...individuals who improve their EI and emotional competence in ways that match the demands of their work situation can be expected to raise their job performance" (Tomer, 2003). Like Ashkanasy et al (2002), Tomer (2003) also observes a potential benefit in assessing the emotional competencies of a candidate for a job to ascertain if he satisfies the emotional requisites of the job.

Ashkanasy et al (2002) highlight the association of EI with Leadership. They state that "the components of TL clearly resemble the key components of emotional intelligence" (Ashkanasy et al, 2002: 325). Luthans (2002) stresses the potential significance of EI for leadership effectiveness and human resource performance improvement. Therefore, this thesis investigates the influence of EI on leadership styles conducive to change. The following chapter reviews the literature on change leadership.

CHAPTER 4: CHANGE LEADERSHIP LITERATURE REVIEW

4.0 CHAPTER INTRODUCTION

This chapter reviews the general literature on change leadership, specifically encompassing the literature on TL and transactional leadership (TrL). Studies have strongly supported the contention that TL is highly effective in organisational change (Bass, 1998; Tichy & Devanna, 1990; Nemanich & Keller, 2007; Senior et al., 2012) which is located in the Full Range Leadership Model (FRLM) (Bass & Avolio, 1994). The FRLM comprises TL, TrL and Laissez-Faire leadership (LFL) and many studies suggest that to be truly effective, a range of TL and TrL skills are required (Vera & Crossan, 2004). As this thesis is located within the context of change, the entire FRL literature is reviewed here with detailed emphasis on TL.

4.1 EMERGENCE AND DEFINITION OF LEADERSHIP

According to Lambert (2003), “Leadership, both its definition and practice, has been an elusive idea” (Lambert, 2003: 422). The word ‘leadership’ conjures up an abstract image whereby a person intuitively has a concept of what the term means, yet it could hold different meanings for different individuals.

Several attempts have been made to identify and define the various dimensions of leadership (Fleishman et al, 1991). “There are as many definitions of leadership as there are authors” (Nirenberg, 2001: 1). However there is a consensus among the academics and practitioners, that a universally accepted and agreed upon definition of leadership does not exist (Paglis & Green, 2002; House & Podaskoff, 1994; Stogdill, 1974, Yukl, 1998).

Bass (1990) describes leadership as the “focus of group processes” (Northouse: 2, 1997). More traditionally leadership is perceived as characteristics or inherent special

attributes enabling a person to “induce others to accomplish tasks” (Northouse:2, 2003). However Kotter (2001) contradicts this, saying, “Leadership isn’t mystical and mysterious. It has nothing to do with having “charisma” or other exotic personality traits” (Kotter, 2001: 103). Thus, it could be an ‘influencing’ force building networks of communication and relationships (Yukl, 1998). “Leadership is a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2003:3).

Thus, an ‘asymmetrical relationship’ is noticeable. Woodgate (2002) believes, “On their own, the leader cannot make a difference: it is the effect the leader has on others which counts...” (Woodgate, 2002: 22). The necessity of the leader and the follower are mutually interdependent (Hollander, 1992; Heller & Van Til, 1983) and “...to understand the concept of leadership, the members must be considered” (Dasborough & Ashkanasy, 2002: 617). Leadership influence, may address “personal needs and values of others.” (Pheysey, 1993: 153) Increasingly leadership in the business literature points towards a definition of the leader as being essentially benevolent (Kellerman, 2004: 40).

Modern authors recognise that, superior-subordinate interactions are not confined to just the actions of individuals but encompass the nature of interactions as well as time constituents (Avolio in Avolio & Locke, 2002; Lord et al, 2001).

4.2 LEADERSHIP EFFECTIVE IN ORGANISATIONAL CHANGE

Reviewing the literature on effective leadership for change, consistently extolled and evidenced the virtues of TL. Transformational leaders are increasingly being referred to as ‘change agents’ (Werder & Holtzhausen, 2009; Nemanich & Vera, 2009; Eisenberg et al., 2007; Vera & Crossan, 2004; Bass & Steidlmeier, 1999). Pawar and Eastman (1997) was one of the prominent earlier proponents of TL in the change context. Research points towards a convergence between the literature on organisational change and leadership; in particular, TL (Eisenbach, Watson & Pillai, 1999: 80). Herold et al. (2008) uncovered a strong association between TL and individual commitment to change. A positive orientation has been demonstrated by

transformational leaders towards initiating, implementing and achieving change (Detert & Burris, 2007; Bass, 1985). Vigoda-Gadot and Beeri (2011) highlight the ever-increasing planned changes in the public sector and the need for appropriate leadership to aid these changes. These involve leading structural changes, enhancing processes, facilitating productive cultures, maximising services and satisfaction all on a tight budget. In this context, the leadership styles primarily focused on, in the literature, are TL and TrL (Vigoda-Badot & Beeri, 2011; Bass, 1985). Furthermore, TL was argued to be appropriate in achieving the above-mentioned goals through leaders appealing to the non-material needs and virtues of followers including ethics, commitment, tenacity and motivation (Vigoda-Badot & Beeri, 2011). Moreover, Bloch (2000) identified a positive link between TL behaviours and individuals who acted as positive deviants leading to the deliverance of sustainable changes in organisations.

Green and Roberts (2012) evaluated the impact of postmodernism on the leadership practices in the public sector and singled out TL as the contemporary leadership style suitable for present day post-modern organisations. Present day organisations are brewing with change, conflict and highly-charged emotions. Green and Roberts (2012) imply the need for leadership that allows followers to raise questions, prioritise relationships over organisations, and share their emotions and experiences. Thereafter, they argue that TL is the contemporary leadership style which is most suited to post-modern employees grappling with radical dynamism.

Van Wart and Kapucu (2011) point out that TL is suited to all types of changes and is particularly effective in facilitating long-term changes. This is particularly relevant to the changes in the NHS. Effective transformational leaders establish and co-ordinate excellent change plans, overcome resistance and create enthusiasm for the prospects presented by the changes (Van Wart & Kapucu, 2011). TL is often appropriate for organisation-wide change initiatives (Van Wart & Kapucu, 2011).

The aim with 'charismatic' and 'transformational leaders' is to pay attention to and nurture 'visionary figures' able to perceive and express a 'strategic vision' which encourages and motivates employees to adopt and be receptive to change and innovation (Caldwell, 2003; Tichy & Devanna, 1986; Bass, 1990; Behling and

McFillen, 1996). TL displays high efficiency and effectiveness in changing scenarios, which involve non-routinised activities and adaptation (Eisenbach, Watson & Pillai, 1999; Bass, 1995; Pawar and Eastman, 1997). TL is perceived to induce and inculcate change and movement in business institutions. Such leaders are believed to have clarity of goals, the capability to present a vision for transformation and the ability to provide appropriate guidance in new directions (Tucker & Russell, 2004; Bennis & Nanus, 1997). They focus on “change, progress and development” (Tucker & Russell, 2004: 105) as well as enthuse and align members of organisations with the new vision, goal and strategies of organisations.

Oreg and Berson (2011) argue that TL behaviours might be instrumental in helping followers accept changes and mitigate resistances to organisational changes. Studies have investigated the linkage between TL and workers response to transformations (Oreg & Berson, 2011; Nemanich & Vera, 2009; Nemanich & Keller, 2007). Transformational leaders have been identified as having a proclivity to emphasise, envision and tackle changes (Avolio, 1994; Conger & Kanungo, 1992; Bass, 1985). They concluded that the traits and behaviours of managers are strongly attributable to follower-acceptance of change (Oreg & Berson, 2011).

Nemanich and Keller’s (2007) study upheld the strength of TL in facilitating change through establishing goal clarity, creative thinking and finally facilitating acceptance of an acquisition. Nkomo and Kriek (2011) found that the ability to generate a hopeful, positive, upbeat vision of the future increased followers’ acceptance and engagement with the change. Providing a compelling vision of the future is an essential aspect of TL, also known as visionary leadership. Innovation is strongly embedded in change. TL has been found to have a positive impact on innovative endeavours (Jaskyte, 2011; Eisenheiß & Boerner, 2010; Gumusluoglu & Ilsev, 2009; Howell & Higgins, 1990; Bass, 1985) through creativity and novel ideas (Jung et al., 2003). TL emphasises and facilitates empowering followers; this in turn can strongly contribute to invoking follower loyalty to changes in organisations (Conger & Hunt, 1999). Willink (2009) emphasised the need to shift from traditional management approaches to TL, in order to lead changes warranted through budget cuts, globalisation pressures, pipeline challenges in the pharmaceutical industry. It is contended that TL targets higher-order changes and encourages maximum

performance from followers in organisational environments characterised by rampant transformations (Grant, 2012; Anantaraman, 1993). These leaders are flexible and excellent in achieving culture changes (Bass, 1990). Therefore, it can be strongly reasoned that TL behaviours induce transformations in individuals and institutions. Furthermore, in order to assist the kind of changes and transformations taking place within the NHS, TL may be argued to be an extremely effective style (Hanna, 2008).

Bass (1985) presented TL as a means to achieve higher-order change by getting followers to transcend their own needs to subscribe to organisational goals, to aspire to the higher levels on Maslow's hierarchy like recognition and self-esteem; whereas TrL was presented as suitable for lower-order or marginal improvements (Grant, 2012). However, Egri and Herman (2000) discovered that there was a need and place for both TL and TrL behaviours in environments requiring management which is pro-change and self-transcendent. Vigoda-Gadot and Beerli (2011) also suggest that TrL may be suited to the achieving the above change-ridden goals as despite being focussed on transactional/pecuniary agreements, the leaders and followers still need to "achieve convergence" (Vigoda-Gadot & Beerli, 2011: 577). Hernandez et al. (2011) point out that TrL is a key aspect of effective leadership. This is so, as clarity of agreement and exchange is necessary for followers to identify how to achieve the rewards they desire (Hernandez et al., 2011). It may be contended that this skill will also enhance follower subscription to change initiatives. TrL can also be very persuasive as followers would consider it in their best interests to comply with the leaders' requirements (Werder & Holtzhausen, 2009). A key component of TrL is 'contingent reward' which arguably entails incentive provision, rewarding performance, praising and recognising followers' efforts (Yukl, 1999). It may be reasoned that these are all characteristics which leaders need to manifest in ensuring that the organisational changes appeal to their followers and in order to successfully sell change programmes to the followers. Yukl (1999) also suggests that certain similarities may be argued between TL and TrL, particularly in relation to the characteristics highlighted above. It has been suggested that TL and TrL are complementary and there is likelihood for TL to be ineffective in the total absence of TrL (Bass et al., 1987; Lowe et al., 1996). Therefore, while concentrating mainly on TL, this PhD also takes into account interactions between EI and TrL. Both TL and

TrL sit within the Full Range Leadership Model, therefore this model is explained in the next section.

4.3 FULL RANGE LEADERSHIP MODEL

The Full Range Leadership Model (FRLM) comprises three styles of leadership: Transformational Leadership, Transactional Leadership and Laissez Faire Leadership. These are discussed below.

4.3.1. TRANSFORMATIONAL LEADERSHIP

TL or transforming leadership was initially conceptualised by Downton (1973) essentially differentiating it from transactional leadership¹⁰. After Downton (1973), Burns' (1978) pioneered the TL (TL) concept as a leadership style that emphasises commitment and entails the leader and follower(s) working together with shared values towards a shared vision (Burns, 1978; Hooper & Potter, 2000). Bass (1985, 1998) developed the concept of TL and identified its major components as 'idealised influence or charisma', 'inspirational motivation', 'intellectual stimulation' and 'individualised consideration'.

Idealised influence or charisma refers to the leader behaving as a role model embracing strong ethical values, moral conduct, trustworthiness and respectable conduct. These leaders aim to present themselves as the ideal member of the organisation. They generally carry the vision and mission of the organisation (Bass, 1985; Bass, 1990; Bass & Avolio, 1994).

Inspirational motivation entails inspiring and motivating followers by making them aware of high expectations and providing meaning to their work. It also strives to make them aware of the importance of their contribution in the context of a holistic

¹⁰ Transactional leadership is an exchange-oriented leadership style. Here transactions form the bulk of the leader-follower relationship. This is the style that was considered prevalent, when the concept of TL was initially introduced by Burns (1978) in 1978. This style will be discussed in detail in the next sub-section.

picture. It involves promoting commitment, shared organisational vision, and team spirit, on the part of the followers as well as aims to appeal to one's emotional side (Bass, 1985; Bass, 1990; Bass & Avolio, 1994).

Intellectual stimulation focuses on encouraging creativity, innovation, challenging traditional beliefs, emergence of new ideas of both the followers and the leaders with an aim towards the good of the organisation. Active participation of followers in all organisational issues is encouraged. Followers are encouraged to question existing notions and assumptions and look at problem solving from novel and innovative angles. Leaders are receptive to new and innovative ideas from followers (Bass, 1985; Bass, 1990; Bass & Avolio, 1994).

Individualised Consideration entails the leader acting as a mentor to every follower. The leader pays attention to, listens to and supports every individual follower. They delegate, coach and act as advisors to their followers (Bass, 1985; Bass, 1990; Bass & Avolio, 1994; Northouse, 2004).

The second key leadership style encompassed by the FRL model is TrL, which is discussed in the next section. While TL is contended to be the most effective leadership style for change, however it is also argued that to be truly effective as a leader, both TL and TrL skills are necessary simultaneously. Furthermore, Vigoda-Gadot and Beerli (2011) reported a linkage between TrL and change-oriented behaviours. Therefore, this thesis also takes into account TrL in examining EI and leadership conducive to change.

4.3.2 TRANSACTIONAL LEADERSHIP

Transactional Leadership is exchange-oriented, whereby transactions form the bulk of the leader-follower relationship. Here the leader exchanges products or services of value with the followers, such that their own as well as the followers' agenda is advanced (Kuhnert, 1994). They are able to influence their subordinates, as through the exchange process the subordinate does what the leader asks in return for the

leader satisfying their interests (Northouse, 2004). This leadership style comprises of ‘contingent reward’ and ‘management-by-exception’.

Contingent reward is the exchange process whereby specific rewards from the leaders are exchanged for the satisfactory follower efforts. Here the leader agrees tasks with the follower and the rewards they will receive in return, including rewarding good performance and achievements (Bass, 1985; Bass, 1990; Bass & Avolio, 1994).

Management-by-Exception may be active or passive. This encompasses “corrective criticism, negative feedback and negative reinforcement” (Northouse, 2004: 179). In its active form, leaders closely observe subordinates in order to identify their errors or breach of rules and thereafter employ corrective action. In its passive form, the leader intervenes only if and when problems occur and targeted standards are not achieved. Essentially active and passive management-by-exception are considered to adopt negative reinforcement techniques while contingent reward is perceivable as a positive reinforcement technique (Bass, 1985; Bass, 1990; Bass & Avolio, 1994).

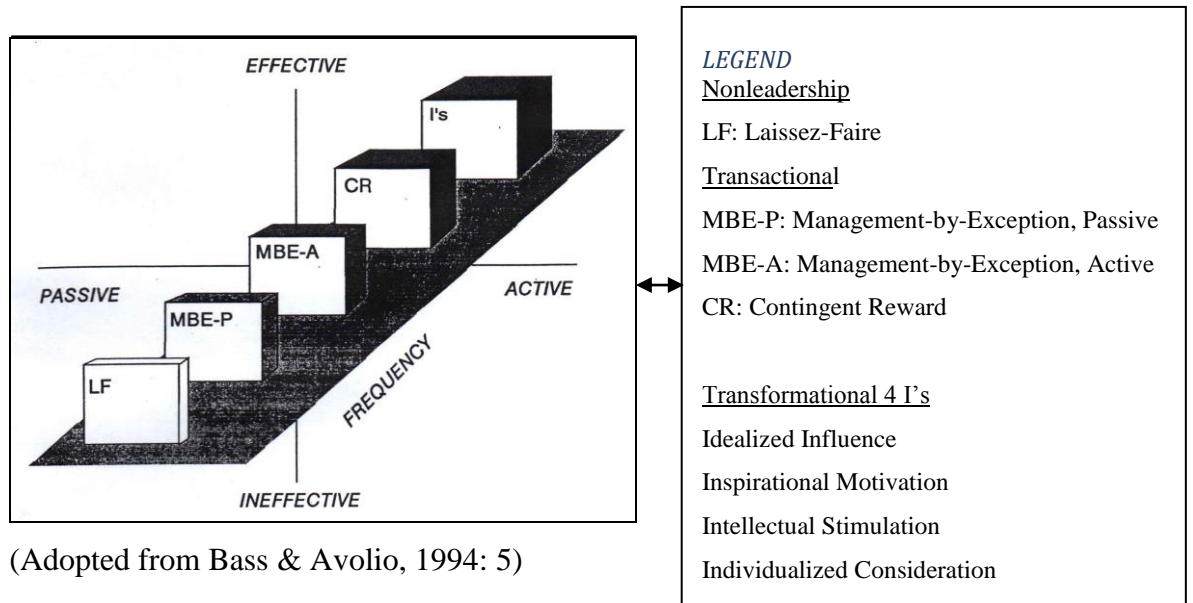
4.3.3 LAISSEZ FAIRE LEADERSHIP

This represents non leadership or the absence of leadership on the transactional-transformational leadership continuum. In this style, there is little or no contact or planning between the leader or employer and the followers or employees¹¹ (Bass & Avolio, 1994).

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¹¹ An example of this kind of leadership is found in small manufacturing firms where there is little or no contact between the president and the employees of the firm.

Figure 4.1: The Full Range Leadership Model



(Adopted from Bass & Avolio, 1994: 5)

Thus the Full Range Leadership model manifests itself as a single continuum encompassing TL, transactional leadership and laissez-faire leadership. Any individual leader may be expected to exhibit facets of all three styles, transactional, transformational and laissez-faire leadership; most “leaders have a profile of the full range of leadership that includes both transformational and transactional factors” (Bass & Steidlmeier, 1999: 184). However, the most dominating style perceivable in a leader is deemed to be the style of that particular leader. Thus a person who exhibits greater TL behaviour is deemed as a transformational leader. It is arguable that TL is highly conditioned to provide the desired and necessary style of leadership within dynamic environments embroiled in constant change processes. This includes incorporating, implementing as well as managing these changes. Some research has indicated that the contingency reward factor of transactional leadership, along with TL; is also highly conducive to change leadership. There have been some suggestions that TL builds specially on the contingent reward behavioural aspect of transactional leadership (Avolio et al., 1999). Hence, this study will investigate the impact of EI on the FRL model within the change environment of the NHS.

In table 4.3 below, the connotation of the different factors in the FRLM is summarised.

Table 4.3: Transformational Leadership Factors

TRANSFORMATIONAL LEADERSHIP FACTORS	
Idealised Influence or Charisma	This involves depicting the leader as role model having strong values of ethics, moral conduct, trustworthy and respectable. They are considered as people who have a vision and a mission. Nelson Mandela is considered an example of this kind.
Inspiration or Inspirational Motivation	Such a leader motivates and inspires followers by informing them about high expectations. They encourage and promote commitment, shared organisational vision, team spirit, on the part of the followers. Such leaders appeal to one's emotional side.
Intellectual Stimulation	This kind of leadership involves encouraging creativity, innovation, challenging traditional beliefs, emergence of new ideas of both the followers and the leaders with an aim towards the good of the organisation. Active participation of followers in all organisational issues is encouraged.
Individualised Consideration	This leader in essence pays attention to, listens to and supports every individual follower. They delegate, coach and act as advisors to their followers.
TRANSACTIONAL LEADERSHIP FACTORS	
Contingent Reward	This factor underlines the transactional process whereby the leader awards the followers for their work and efforts. Thus it highlights the exchange process between the leader and the follower. This kind of leadership works like a contractual agreement of what the follower should do and what he or she would get in return.
Management-by-Exception (Active/Passive)	This kind of leadership may be active or passive. In the active form, leaders closely monitor followers' actions, identify their errors and thereafter employ corrective action. In the passive form, leader intervention can be seen only when it is found that overall targets and standards have not been met and there have difficulties, problems or conflicts.
NON-LEADERSHIP FACTOR	
Laissez-Faire	This factor implies the absence of leadership intervention. Here there is no leader follower interaction and the leader here refrains from taking responsibility, providing feedback, taking decisions and the like.

(Compiled from Northouse, 2004)

No leader may be wholly transactional or transformational. It is believed that, "most leaders have a profile of the full range of leadership that includes both transformational and transactional factors" (Bass & Steidlmeier, 1999: 184 as quoted in Vera & Crossan, 2004). Ideal leadership is possibly attainable when an optimum amalgamation of both transactional and TL styles is employed. Research demonstrates that a more effective leader is generally transactional, in a path-goal theory sense, as well as transformational (Avolio & Bass, 1995; Howell & Avolio, 1993 and Hater & Bass, 1988). Research has also suggested that TL builds specially

on the contingent reward behavioural aspect of transactional leadership (Avolio et al., 1999).

4.4 CHAPTER CONCLUSION

The above review commences by establishing the definition of leadership and recognising the importance of leader-follower interactions in establishing successful leadership. Thereafter the core focus of this chapter has been on identifying leadership styles purported to be most effective and efficient within turbulent, dynamic environments. Through the literature review of leadership and change, TL emerged as the leadership style to be reckoned with during change especially if these changes were planned, structural, long-term, facilitated culture change, and involved conflict and strong emotions. The literature strongly associates transformational leaders with being visionary, innovative, welfare-oriented and mitigating resistance which are crucial for successful change leadership. This review traces the origin of TL by Downton (1973) and Burns (1978). Bass and Avolio (1994) further developed and conceptualised TL as part of the FRL model which also encompasses TrL and LFL. The literature review here reveals that TrL is also found to successfully contribute to small incremental changes. Furthermore, it is argued that a truly effective leader would manifest an amalgamation of TrL and TL behaviours. Alongside TL, as indicated in the introduction, EI is also suggested and argued to possess significant potential to aid organisational change. The following chapter reviews the literature arguing a potential association between EI and change leadership (i.e. TL).

CHAPTER 5: EMOTIONAL INTELLIGENCE AND CHANGE LEADERSHIP

5.1 CHAPTER INTRODUCTION

This chapter reviews the literature seeking inter-relations between EI and leadership, particularly EI and TL as TL has been established as crucial in environments endemic with change. The theoretical link between the key EI and TL factors have been argued using evidence reporting a positive association between the two. Thereafter contradictory evidence refuting a positive association between them has been reported; arguing the need to further investigate the association between EI and leadership, especially EI and TL.

5.2. EMOTIONAL INTELLIGENCE AND LEADERSHIP

From the separate reviews of the literature on EI and leadership, insights of an association between the two can be perceived. Both EI and leadership are believed to have immense potential to enhance effective and profitable organisational behaviour. Preliminary assertions proposed (Goleman, 1998b, 2000; Higgs & Dulewicz, 1999; Bennis, 1999) and supported through exploratory studies (Dulewicz and Higgs, 2001; Higgs & Rowland, 2000, 2001) the existence of links between EI and leadership. Higgs and Aitken (2003) empirically endorse that EI and leadership is related. “In the last ten years the emergence of EI phenomenon has jolted traditional views of what it takes to be an effective leader” (Dearborn, 2002: 524). EI has been acknowledged as being an imperative underlying attribute determining effective leadership (Cooper and Sawaf, 1997; Goleman 1998b). Barling et al (2000 state “...current findings suggest that individuals higher in EI are seen...as displaying more leadership behaviors” (Barling et al, 2000: 159). Table 5.1 displays the relationships identified between EI and different leadership models.

Table 5.1: Relationships between Leadership Models And Emotional Intelligence

Elements of Emotional Intelligence	Transitional/Transformational (Bass, 1985)	Leadership Constructs Alimo-Metcalfe and Alban-Metcalfe - TLQ (2001)	Goffee and Jones (2000)	Kouzes and Posner (1998)	Kotter (1990) - What leaders do	Bennis (1998)
Self-awareness		Self Awareness	Reveal differences Selectively show weaknesses			Develop self-knowledge Develop feedback sources
Emotional Resilience			Tough empathy	Challenges processes Enable others		Balance change and transition Learn from adversity
Motivation	Charismatic Leadership	Achieving, determined	Tough empathy	Challenge processes Model the way	Motivating and inspiring Setting directions	Role model
Interpersonal sensitivity	Individual consideration Charismatic leadership Intellectual stimulation	Consideration for the individual Sensitive change management	Tough empathy Selectively show weaknesses	Challenge processes Inspire shared vision Enable others Model the way Encourage the heart	Aligning people	Open style
Influence	Charismatic leadership Individual consideration	Networking	Reveal differences Tough empathy	Inspire shared vision Enable others	Aligning people Motivating and inspiring Setting direction	Open style
Intuitiveness	Intellectual stimulation	Decisive, achieving	Intuition	Inspire shared vision Encourage the heart		Capacity to concentrate Curious about innovation
Conscientiousness and integrity	Individual consideration	Integrity and openness	Tough empathy Reveal differences	Model the way Encourage the heart	Aligning people	Role model

(Adopted from Higgs & Dulewicz, 2004, Pg. 186)

Research on leadership styles has strongly established that TL is an extremely effective leadership style (Burns, 1978; Bass & Avolio, 1996; Tichy & Devanna, 1986; Covey, 1990; House, 1995). Antonakis et al. (2009) believe that emotions are integrated in effective leadership. TL has yielded effective outcomes and performance levels in technological innovation (Howell & Higgins, 1990), total quality management output (Sosik & Dionne, 1997), simulation production quality task outputs (Kirkpatrick & Locke, 1996), military unit achievement (Yammarino & Bass, 1990), group creativity via computer aid (Sosik, 1995), organisational unit effectiveness (Hater & Bass, 1988; Howell & Avolio, 1993), team performance (Avolio et al., 1988) and so on (Megerian & Sosik (1996).

TL is enmeshed in emotional relationships with follower members to a higher degree than other leadership styles (Bass, 1985; Burns, 1978; Shamir, 1991; Megerian & Sosik, 1996). The following section explores the association between EI and TL that has been discussed in the literature.

5.3 EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP

Authors have made preliminary suggestions regarding facets of EI inspiring or influencing the demonstration of TL in the workplace setting (Cooper, 1997; Goleman, 1995; Megerian & Sosik, 1996). The establishment of strong emotional relationships between the organisational members is imperative both from the perspective of EI as well as TL, thus linking the two distinct constructs.

Mandell and Pherwani (2003) concur that, "... TL style and emotional intelligence are based on relationships and are thus related to one another" (Mandell & Pherwani, 2003: 400). Research indicates, an emotionally intelligent organisation emulates an ambience rich in employee co-operation, motivation, productivity and higher profits; which are also characteristics of a TL led organisation (Duckett & Macfarlane, 2003).

Many studies so far reveal relatively higher correlations between aspects of EI and TL, a lesser degree between social intelligence and TL and the least amount of correlation between cognitive intelligence and TL (Bass 2002, Atwater & Yammarino, 1993; Howell & Avolio, 1993; Ross & Offerman, 1997, Mandell & Pherwani, 2003). Marques's (2007) qualitative studying identifying a list key attributes informing favourable leadership qualities found consensus of opinion upholding passion and EI as important for leadership. Furthermore, Tang et al.'s (2010) study indicated a positive association between EI and TL studied by Kouzes and Posner's Leadership Practice Inventory – Self.

Goleman (1995) and Stein and Book (2000) argue, a higher level of EI renders more effective leadership. Sivanathan and Fekken (2002) further reason a conceptual overlap between the four elements of TL driven mainly by the personal, emotional and social skills of the leader (Bass & Avolio, 1994) and the personal, social and emotional elements constituting EI. Furthermore, Riggio and Reichard (2008) has presented a theoretical framework arguing a positive impact of emotional and social intelligence on effective leadership. Caruso, Mayer and Salovey (2002) espouse Bass's (2002) suggestion that multiple, social and EI is crucial to a transformational leader's success in inspiring followers and developing relationships.

Mayer and Salovey (1995) highlight that EI embraces, aspiring for long term benefits rather than short term ones, adopting pro-individual and pro-social attitudes awarding priority to emotions and emotional aspects. This is echoed in other EI models as well (Higgs & Dulewicz, 2002; Palmer & Stough, 2002). These emotional aspects are related to TL underpinnings (Bass, 1990) embracing long term visions and prioritising personnel evolution. Thus, both EI and TL lay emphasis on being process-oriented rather than outcome-oriented.

Goleman (1998) argues that EI contributes to the leader's ability to nurture and raise shared vision. Burns (1978) emphasises that a major characteristic of TL is the creation of shared vision. Therefore, a connection between EI and TL via 'shared vision' can be seen.

According to Cooper (1997), a key feature of EI is trust. Furthermore, Bass (1990) asserts that trust is an essential aspect of TL. Herein, EI and TL can be inter-related through the characteristic of trust. Duckett and Macfarlane (2003) established, a link exists between EI and TL via mapping Simmons (1998) EQ or EI profiles against TL profiles shown in table 5.2.

Table 5.2: TL and Simmons Management Survey - Emotional Quotient (SMS-EQ) (1998)

SMS-EQ dimension	Descriptipon	Transformational/ transactional leadership
Energy	Emotional energy is the energy a person has to cope with stress, conflict, frustration and pressure	Transformational - inspiration/energy
Stress	Emotional stress is the degree to which a person is troubled by uncomfortable felings	Transformational - inspiration
Optimism	To what degree an individual sees the world in a positive or negative light	Transformational - charisma/ inspiration
Self esteem	The tendency to value oneself and be self accepting	Transformational - individualized consideration
Commitment to Work	Commitment to work is the tendency to work hard, to get things done, and to take responsibility	Transformational - inspiration/intellectual stimulation Transactional - management by exception (active)
Attention to details	Attention to detail measures to what degree a person pays careful attention to what he/she is doing, and to what degree a person strives for precision in tasks	Transactional - management by exception (active)
Change	Desire to change measures to what degree people like to change in their environment, in what they believe or in their behaviour	Transformational - charisma/ intellectual stimulation/ inspiration
Courage	Courage is the willingness to risk injury, loss, hardship or physical discomfort to reach a desired goal	Transformational - inspiration/charisma
Direction (transformational/ transactional)	Self direction is the tendency to form opinions, set goals, and make decisions	Transformational - inspiration/charisma
Assertiveness	Assertiveness measures to what degree a person tries to motivate others to believe or do something	Transformational - inspiration
Tolerance	Tolerance is the degree to which a person is patient or willing to put up with inconvenience from others	Transformational - individualized consideration
Consideration	Consideration for others is how understandable, thoughtful, helpful, honest and responsible the person is	Transformational - individualized consideration
Sociability	This is the tendency to meet people, spend time talking and be group oriented	Transformational - individualized consideration

(Adopted from Duckett & Macfarlane, 2003, Pg. 313)

Duckett and Macfarlane's (2003) study also supported the hypothesis that if EI and TL are related then the ideal manager of the company, would demonstrate both a high level of EI and TL. Mandell and Pherwani (2003) and Higgs and Aitken (2003) have provided some empirical implication that a person displaying a high EI score had a higher chance of being a transformational leader. Higgs and Aitken (2003) argue that EI will be more prone to predicting the emotional and behavioural aspects of leadership with the understanding that the leadership literature can be described as having distinct cognitive, emotional and behavioural sides to it (Kets De Vries & Florent-Treacy, 2002).

Since the above indications of a linkage between EI and TL, and the commencement of this study; more studies investigating this potential association have reported different results. Some studies report a strong correlation between EI and TL (George, 2000; Barling et al., 2000; Palmer et al. 2001; Jin et al., 2008; Hur et al., 2011), while some other studies refute or question the association (Brown et al., 2006; Lindebaum, 2008; Antonakis et al., 2009; Weinberger, 2009; Walter et al., 2011). Therefore, at best, the combined results with the various EI models may be described as conflicting. Walter et al. (2011) state, "We believe EI-leadership researchers must pay greater attention to unresolved issues..." (Walter et al., 2011: 45).

The following table (table 5.3), adopted from Walter et al. (2011) captures a snapshot of the conflicting results reported from studies linking EI and leadership behaviour.

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Table 5.3 – Studies Linking EI and Leadership and Results Reported

Summary of Studies Linking EI and Leadership Behavior

Article	EI Measurement		Sample Description		Leadership Behavior Measurement		EI–Behavior Link
	Instrument	Source	Sample Size	Sample Type	Outcome Description	Source	
<i>Stream 1</i>							
Jin et al. (2008)	MSCEIT	Self	178	Managers (part-time MBA students)	TL	Subordinate	Supported
Leban & Zulauf (2004)	MSCEIT	Self	24	Project managers	TL, CR*, MBE, LF	Subordinate; stakeholder	Partially supported
Rubin et al. (2005)	DANVA	Self	177	Managers	TL, CR*	Subordinate	Partially supported
Weinberger (2009)	MSCEIT	Self	138	Managers	TL*, CR*, MBE*, LF*	Subordinate	Not supported
<i>Stream 2</i>							
Gardner & Stough (2002)	SUEIT	Self	110	High-level managers	TL, CR, MBE, LF	Self	Supported
Lindebaum & Cartwright (2010)	WLEIS	Subordinate, manager	45-58	Project managers	TL*	Subordinate, line manager	Not supported
Groves (2005)	SSI	Self	108	Senior organizational leaders	CL	Subordinate	Supported
Middleton (2005)	SSEIT	Self	64	Undergraduate students	CL	Peers, parents, teachers, etc.	Supported
Moss et al. (2006)	SUEIT	Self	Study 1: 263 Study 2: 166	Government organization managers	TL*, Corrective-avoidant leadership	Subordinate	Partially supported
Palmer et al. (2001)	TMMS	Self	43	Higher, middle, and lower level managers	TL, CR, MBE*	Self	Partially supported
Walter & Bruch (2007)	WLEIS	Self	34	Higher, middle, and lower level managers	CL	Subordinate	Supported
<i>Stream 3</i>							
Barbuto & Burbach (2006)	EI measure	Self	80	Elected community leaders	TL	Subordinate	Supported
Barling et al. (2000)	EQ-i	Self	49	Higher, middle, and lower level managers	TL, CR	Subordinate	Supported
Brown et al. (2006)	EQ-i	Self	161	Managers and supervisors	TL*, CR*	Subordinate	Not supported
Mandell & Pherwani (2003)	EQ-i	Self	32	Managers	TL	Self	Supported
Sosik & Megerian (1999)	Emotional competencies	Self	63	Managers	TL	Self; subordinate	Supported

Note: CL = Charismatic leadership; CR = Contingent reward; DANVA = Diagnostic Analysis of Nonverbal Accuracy; EQ-i = Emotional Quotient Inventory; LF = Laissez-faire; MBE = Management by exception; MSCEIT = Mayer-Salovey-Caruso Emotional Intelligence Test; SSEIT = Schutte Self-Report Emotional Intelligence Test; SSI = Social Skills Inventory; SUEIT = Swinburne University Emotional Intelligence Test; TL = Transformational leadership; TMMS = Trait Meta Mood Scale; WLEIS = Wong-Law Emotional Intelligence Scale. * EI was not found to significantly relate with this variable.

(Walter et al., 2011)

The field of EI is only about 20 years old (Antonakis et al., 2009) and research linking EI to leadership and especially TL has picked up only in the last decade. Therefore, research in this arena is still in its nascent stages and therefore undoubtedly in a state of flux, controversy and needs further development as evidenced in T5.3. Antonakis et al.'s (2009) paper points out that this is a natural scenario given that other theories like cognitive intelligence (Sternberg, 2002) has

been studied for over a century and “is still in a state of turmoil, controversy and continuing development” (Antonakis et al., 2009). Therefore, with the development of an increasing number of EI models and change leadership conceptualisations, there is a clear need for more and rigorous studies investigating EI and TL.

The following two sections argued the theoretical rationale justifying an interconnection between EI and TL. This is followed by more detailed evidence contradicting the association between EI and TL.

5.3.1 ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE AND TL THROUGH THE LENS OF INDIVIDUAL EMOTIONAL INTELLIGENCE COMPONENTS

‘Self awareness’, an EI component also considered by Goleman (1995) to provide the foundation for the other four EI components in his model of EI, has been identified as essential in the success of TL (Bennis, 1989; Megerian & Sosik, 1996). Sosik and Megerian (1999) and Palmer et al (2001) believe that EI is a variable, instrumental in effective TL. Megerian and Sosik (1996) highlighted that an individual’s behaviour and style of interaction with other individuals is highly determined by their level and nature of self-awareness. Gardner & Avolio (1995) believe that self-aware leaders, who consider themselves as confident, efficient and emotionally aware, cultivate and display facets of charisma. Furthermore, recent research using tailor-made items to study self-awareness reported a positive association between self-awareness and TL (Suri & Prasad; 2011). Thereby, indicating a strong link between the EI component self-awareness and TL.

Sosik and Megerian (1999) argue that self awareness is influenced by purpose-in-life (Frankl, 1992), private self consciousness where one focuses upon one’s interior feelings and reflections, and public self-consciousness which pertains to being generally aware of oneself as a social being (Fenigstein et al., 1975). Sosik and Megerian (1999) point out that, given that purpose-in-life induces self-awareness, a self-aware leader would encourage an attitude of possessing purpose and sense. Similarly leaders adept at emotion management, which is an aspect of EI (Goleman,

1995) are able to employ language and gestures which is emotionally expressive while communicating with followers. This type of behaviour can be linked to that of transformational leaders. While private self-consciousness and PIL are antecedents to the self-awareness aspect of EI; PIL and inner-directedness is deeply connected with TL (Sosik & Megerian, 1999). Thus it can be seen that EI and TL can be related and both can work in combination to motivate, inspire and provide a purpose-in-life to the followers.

‘Emotional management’, another core element of EI is rooted in self awareness and deals with and manages one’s feelings at the time when they are being experienced (Goleman, 1995). It encompasses controlling and supervising one’s moods and mood related responses in different situations. Such attributes of emotional management like emotional control (Gates, 1995) and self-monitoring ability (Gardner & Avolio, 1996; Shamir, 1991) are associated with charisma in TL. Hence, a relationship can be proposed between EI and TL via emotional management (Megerian and Sosik, 1996).

‘Self-motivation’ an EI constituent encompasses a person’s motives, needs, self-efficacy and feelings of hope and optimism (Goleman, 1995). Thus having the desire for power and achievement can lead one to exercise motivation. Shamir et al (1993) argue that the display of a high degree of self-motivation is a characteristic feature of charismatic and transformational leaders. This defines a link between EI and TL.

Goleman (1995) identifies ‘relationship management’ as an EI aspect encompassing socio-emotional skills. Salovey and Sluyter (1997) explain relationship management as the inclination and intention to manage interpersonal relationships effectively. Effective management of interpersonal relationships between the leader and the follower is also a core feature of TL. Thereby EI will enhance the success of TL in nurturing positive emotions and widened thinking. TL is concerned with interpersonal relationships (Bass, 1990; Yukl, 1994), hence proficiency in relationship management is important for being effective in this leadership style (Megerian & Sosik, 1996). Thus, an association between EI and leadership is perceivable.

An integral constituent of EI is 'empathy' (Greenspan, 1989; Goleman, 1995, Mayer and Salovey, 1995). Empathy is the ability to discern and respond appropriately, receptively, compassionately and favourably to alterations in the emotional conditions of others (Hogan, 1969; Salovey & Sluyter, 1997). TL involves being considerate towards individuals ensuring successful follower mentoring and development (Bass, 1998). According to Burns (1978), self esteem and human empathy is crucial for working harmoniously and inducing the effects of TL. This in turn calls for the application of empathy in the transformational leaders actions. Thus a connection between EI and TL is evident.

5.3.2 ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE AND TL THROUGH THE LENS OF INDIVIDUAL TL COMPONENTS

Palmer et al (2001) explored the interconnection between EI as defined by Mayer and Salovey (1997) and Bass's (1985) model of TL through an empirical study employing self-report questionnaires. The TL component of 'inspirational motivation' displayed significant correlation with the EI component of control and management of emotions in oneself and others. Leaders claiming to exercise 'inspirational motivation' by motivating and inspiring followers to perform so that a common goal was targeted; also rated themselves highly on controlling and managing emotions within themselves and others. Here, inspirational motivation displayed a dependency on one's ability to manage emotions. Barling et al (2000) also argue that a leader able to comprehend others emotions well would be able to better gauge the extent to which follower expectations can be beneficially increased. The latter is crucial in the 'inspirational motivation' component of TL. Thus an association between EI and TL is possible.

'Individualised consideration', another constituent of TL also exhibited a significant correlation with the EI facet of controlling and managing one's own and others emotions (Palmer et al, 2001). The leaders, claiming to pay special attention to the needs of individual followers also reported to control and manage emotions effectively. Palmer et al (2001) argue that the EI component of monitoring and

managing emotions maybe considered as underpinning the TL component of individual consideration. Barling et al (2000) report an analogous understanding and point out the essence of empathy and the capacity to handle relationships positively which are attributes of EI in exercising individualised consideration. Herein an alliance between EI and TL is perceivable.

‘Charisma’, a TL component also labelled ‘idealised influence’ demonstrated a significant and moderate correlation with the capability to supervise, emotions and feelings both, pertaining to oneself and others (Palmer et al, 2001). Barling et al (2000) believe that being able to satisfy this aspect of EI enhances self control and thereby follower trust and respect. Thus the leader also becomes a role model to the followers. This, in turn, is keeping with the ‘idealised influence’ aspect of TL. Hence, again a link between EI and TL is confirmed.

‘Contingent reward’, a transactional leadership component has displayed significant correlation with total TL and some selected TL components like idealised influence, inspirational motivation and individual consideration (Palmer et al, 2001; Druskat, 1994). Contingent reward has also correlated positively with emotion management (Palmer et al, 2001). Thus EI and TL can be related via their individual associations with contingent reward.

Sivanathan and Fekken’s (2002) empirical study revealed a positive correlation between the assessment of transformational behaviours of leaders by followers and the EI self-reports provided by the leaders. Sivanathan and Fekken’s (2002) revealed that leaders who claimed to possess a higher level of EI were also seen by followers to demonstrate greater TL skills. Thus, strong support and greater validity is found through this 360 degree study, associating EI and TL.

Gardner and Stough’s (2002) empirical study also supported the above findings and all the EI components considered for the study displayed between a moderately positive to a strongly positive relationship with all the TL components. Leader self-reports showed a marked connection between TL by displaying that leaders who perceived themselves as transformational leaders were actively addressing the emotional aspect of themselves and others. The results of this study are important as

it employed a different instrument to measure EI, which is the ‘Swinburne University Emotional Intelligence Test’ and also replicated previous results. Similarly Mandell and Pherwani’s (2003) study strongly supported the contention that a relationship exists between EI and TL style.

Dulewicz (2000) has identified a number of similarities between EI and Alimo-Metcalf’s (1999) TL factors, shown in the following table 5.4.

Table 5.4: Similarities between EI and TL

Alimo-Metcalf (1999) Factors	EI Elements
Individualised Consideration Sensitive Change Management	Interpersonal Sensitivity
Decisive, Achieving, Determined	Decisive
Networking	Motivation, Influence
Self-awareness, Integrity and Openness	Self-awareness Conscientiousness and Integrity

(Dulewicz, 2000: 1)

Cacioppe (1997) also implied the possibility of an association between EI and TL. He found out that when asked for what qualities people considered leaders to possess in order to be successful, most people identified qualities, which have been established as aspects or components of EI.

5.4 ARGUMENTS AND RESULTS CONTRADICTING AN ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE AND TL

Some issues and arguments do not fully support or raise questions regarding the link between EI and TL. This is discussed below.

Palmer et al (2001) and Barling et al (2000) discovered that ‘intellectual stimulation’, a component of TL did not correlate with any component of EI. Intellectual stimulation pertains to stimulating followers via the encouragement of fresh ideas and means of dealing with old or existing difficulties. However, it has been argued

that intellectual stimulation demands creative thinking and flexible planning (Avolio et al., 1991), whereas Salovey and Mayer (1990) have already reasoned that creative thinking and flexible planning are deeply involved with EI, especially in the utilisation and assimilation of emotions or affect in one's thoughts. Thus, although intellectual stimulation and EI components did not correlate directly in the study, an underlying implicit association between EI and TL is logical. Barling et al (2000) suggest that the necessity to dwell on long-standing problems in a new way; may demand a greater need of cognitive intelligence compared to EI. However there is significant need for empirical replication. Sivanathan and Fekken (2002) suggest that although their empirical study strongly supports a link between EI and TL, it does not necessarily establish causal inferences. Studies are yet to determine whether EI is responsible for increasing TL or vice versa. Thus, need for further research in this arena is demonstrated.

While earlier studies were promising a favourable association between EI and change leadership; however, more recent studies are beginning to identify contradictions in the nature of relationship reported between EI and TL. Brown et al. (2006) reported a non-significant relationship between EI and TL where EI was measured by the EQ-i (Bar-On, 1997) and TL was measured by the MLQ where leaders' rated their EI and followers rated leader TL. Brown and Reilly (2008) also reported a lack of significant association between EI and TL. Furthermore, Barbuto and Burbach (2006) found an absence of significant correlation between leader self-rated EI and follower-ratings of leaders TL factors of intellectual stimulation and idealised influence. Here, Barbuto and Burbach (2006) used a relatively unknown EI measure developed by Carson et al. (2000). Therefore these results dilute prior findings indicating a strong relationship between EI and TL. Lindebaum and Cartwright (2010) employed the Wong and Law EI Test (WLEIS, Wong & Law, 2002) and the TL Questionnaire (TLQ by Alimo-Metcalfe & Alban-Metcalfe, 2005) to study EI and TL respectively. They also reported contradictory findings whereby when correlating EI and TL ratings from the same source, positive correlations were yielded; however, when multisource ratings were correlated, limited significance was revealed. Therefore, evidence on the association between EI and TL is inconclusive and there is a definite need to conduct more research into the linkage between EI and TL.

This study will shed more light on the nature of association between EI and TL and thereby enrich the knowledge base on EI and TL, and help settle the contradictions thrown up by the above studies. This thesis examines the correlation between EI and TL based on same source ratings as well as multi-source ratings involving leader self-ratings and follower-ratings of leaders in two separate phases. The multi-source ratings are being evaluated in SOA categories. Additionally, although the link between EI and TL has been explored; none of the published studies appear to have studied the TL construct within an environment explicitly evidencing a state of flux and change even though TL is considered most effective in change environments. This is a void that this study has addressed by capturing evidence of change at the sites of research (chapter 2).

5.5 CHAPTER CONCLUSION

This chapter has reviewed the literature and existing research findings indicating a possible interlink between EI and TL. This review commences by identifying arguments on associations between EI and leadership by virtue of the fact that emotions are arguably entrenched in successful leadership (Antonakis et al., 2009). The review highlights research suggesting higher EI leads to effective leadership. Higgs and Dulewicz (2004) enumerated the conceptual and theoretical link between EI and various styles of leadership. High EI has been associated with welfare, personal, emotional and social skills focussing on self and others welfare. Furthermore, TL also emphasises follower welfare and emancipation. Therefore, a theoretical linkage between EI and TL has been argued in this review. This chapter has also highlighted arguments for and against a relationship between EI and TL.

The literature review has identified a dearth in studies on EI, TL and OL within an explicit context of change. This is pertinent as TL has been strongly evidenced as the most relevant leadership style within changing environments. Moreover, most of the studies reported are exploratory with relatively small sample sizes and have employed alternative measures of TL as well as proxy measures of EI. There is also a clear need to include follower perspectives alongside that of the leaders. The

literature review found that the majority of the EI and leadership studies were based solely on leader self-ratings. Furthermore, the results are inconclusive, calling for more research in this area using different EI models. Therefore this study attempts to address these gaps and contradictions by studying EI and change leadership within an explicit context of change from the perspective of leaders and followers. Furthermore, this study will enhance knowledge by employing two distinct, valid and reliable EI measures from the ability and mixed-model streams simultaneously to shed light on how the two different models compare in their interactions with leadership styles and leadership outcomes. The following chapter outlines the research hypotheses addressing the above and their justifications.

CHAPTER 6: RESEARCH QUESTIONS AND HYPOTHESES

Within this chapter, the research hypotheses of this study are presented along with the relevant justifications. TL is considered effective in change scenarios; therefore, this thesis focuses specifically on TL. TrL has displayed some effectiveness in change environments too. Hence the whole FRLM encompassing TL, TrL and LFL is studied in phase 1, which focusses on leaders' self-ratings. In this phase, EI, leadership, their interaction and their impact on outcomes of leadership (OL) is investigated.

Moreover, the nature of leadership is redundant without peers or followers. Leadership is non-existent by an individual in isolation. Therefore, to capture a clearer and hopefully more accurate understanding of the interactions between EI and leadership; in phase 2, the combination of leaders' self and follower-ratings is examined. The following presents the individual research hypotheses and their justifications.

6.1 PHASE 1: EMOTIONAL INTELLIGENCE, LEADERSHIP STYLES AND OUTCOMES OF LEADERSHIP – LEADERS' SELF-RATINGS

6.1.1 OVERALL EMOTIONAL INTELLIGENCE AND LEADERSHIP

A theoretical link between TL and EI has been reasoned (Mandell & Pherwani, 2003; Duckett & Macfarlane, 2003). Duckett and Macfarlane (2003) also established preliminary support linking TL and EI. Conceptually EI aspects have the potential to define and determine TL and vice versa (Sosik and Megerian, 1999; Barling et al., 2000; Palmer et al, 2001; Gardner & Stough, 2002; Sivanathan & Fekken, 2002).

Positive associations between TL and EI have been illustrated in some recent investigations using small samples (Barling et al., 2000; Palmer et al., 2001; Sivanathan & Fekken, 2002). Nonetheless, the above studies have been exploratory or preliminary and highlight the need to be extended and replicated (Mandell & Pherwani, 2003).

Studies have testified that TL has effectively brought about change in organisations (Keller, 1995; Ashkanasy & Tse, 2000). Some classify TL as an effective change leadership skill (Brown, 1993). Higgs and Rowland (2002) also suggest that there is potential for a relationship between EI and change leadership. They say, “There is need for further research to explore these potential relationships” (Higgs & Rowland, 2002: 70). Also, only one of the above studies (Higgs & Rowland, 2002) has been specifically conducted in the explicit context of change. Further, it is yet to be determined whether this association is exhibited in health service institutions in the UK. Dulewicz and Higgs (2003) emphasise, “Clearly research evidence to demonstrate the relationship between EI and Leadership has some way to go” (Dulewicz & Higgs, 2003: 200). Here it needs to be noted that it is not being hypothesised that the two constructs will correlate strongly, such that, TL and EI will render themselves as one and the same construct and not two distinct ones. Sufficient correlations are expected to the extent, where TL and EI will be interpreted to have some linkage or association despite being distinct and different constructs (Kline, 1993).

EI and TL are based on relationships and thereby relate to each other (Mandell & Pherwani, 2003). Emotionally intelligent organisations would arguably be better equipped to enhance employee co-operation, motivation, productivity and higher profits. These are also characteristics emulated by TL led organisations (Duckett & Macfarlane, 2003). A conceptual overlap is also arguable between TL and EI through the personal, emotional and social elements of both constructs (Sivanathan & Fekken, 2002). Caruso, Mayer and Salovey (2002) also espouse Bass’s (2002) suggestion that multiple, social and emotional intelligence is crucial to a transformational leader’s success in inspiring followers and developing relationships. EI helps to aspire towards long-term benefits and adopting pro-individual and pro-social attitudes (Mayer & Salovey, 1995). Hence, it can be reasoned that EI can be

instrumental in achieving the TL goals of embracing long term visions and prioritising personnel evolution (Bass, 1990). Thus, both EI and TL lay emphasis on being process-oriented rather than outcome-oriented.

Higgs and Aitken's (2003) study examines the association between leadership potential and EI on forty managers in a New Zealand Public Sector. They employ the Emotional Intelligence Questionnaire (EIQ) (Dulewicz & Higgs, 2000a) to measure EI and used the eight competencies, the public sector centre used to assess leadership potential¹². They expected positive to strong positive associations between the competency to 'lead change' and overall EI as well as the individual EI elements. However, the study showed no relationships between any EI factor and the competency 'Leading Change' (Higgs & Aitken, 2003). Nonetheless, an earlier study exploring the linkage between EI also measured by the EIQ and a Change Leadership Competency Framework¹³ as measured by the Change Leadership Competency Questionnaire (CLCQ) (Higgs & Rowland, 2001) demonstrated a positive overall association between EI and change leadership¹⁴. However, the EI element¹⁵ of 'Intuitiveness' correlated with none of the CLC elements. The authors contend this is "confusing and seems to require further research" (Higgs & Rowland, 2002: 72). Although their exploratory study employing seventy respondents from different

¹² These competencies used by the development centre created for the New Zealand Public Sector application are: Strategic Leadership, Leading Capability Building, Leading Political/Stakeholder Interface, Leading Change, Intellectual Leadership, Leading Culture Building, Building Relationships and Reputation, Building Personal Learning (Higgs & Aitken, 2003).

¹³ This framework comprises a set of leadership competencies connected with successfully implementing change or transformational processes, as identified by Higgs and Rowland (2001). These are: 'Creating the case for change', 'Creating structural change', 'Engaging others', 'Implementing and sustaining changes' and 'Facilitating and developing capability'.

¹⁴ The authors, Higgs and Aitken (2003), suggest the difference in the results may be due to the differences in the underlying conceptualisation of the competency 'Leading Change' (Higgs & Aitken, 2003) from the 'Change Leadership Competency Framework' (CLC). They believe the CLC is more commercially underwritten.

¹⁵ The EI model used here is the Dulewicz & Higgs (2000) model created after an "extensive review of the literature... [and encompass]...the core common elements in the overall construct" (Higgs & Rowland, 2002:68). The EI elements making up this model are: Self-Awareness, Emotional Resilience, Motivation, Interpersonal Sensitivity, Influence, Intuitiveness, Conscientiousness and Integrity (Higgs & Rowland, 2002).

private sector organisations, suggests that a relationship exists between change leadership and EI, yet they state, “Indeed, further research with larger samples within a broader range of organisations and sectors would be useful” (Higgs & Rowland, 2002: 72).

Sivanathan and Fekken’s (2002) study using the MLQ and EQ-i revealed a positive correlation between TL and EI. Nevertheless, they do not report the level of association displayed between the individual components of TL and EI. The organisation in Duckett and Macfarlane’s (2003) study, employed selection criteria emphasising formidable inter-personal skills, empathy with the organisational culture and emotion and commitment to the products¹⁶ of the organisation. The authors contend that these reflect TL behavioural qualities. They gauged the EQ¹⁷ profiles of the different managers through the SMS-EQ¹⁸ Profile, a quantitative tool producing EQ profiles. Results of the study showed that the SMS-EQ Profile associated with both transformational and transactional leadership characteristics. “However, the emphasis of the profile is transformationally oriented” (Duckett & Macfarlane, 2003: 2003). Thus, this study suggested a linkage between TL and EI. Butler and Chinowsky (2006) found a positive association between EI and TL within the construction industry. However, this relationship is yet to be examined within an explicit change context particularly within the healthcare services in the UK. Mandell & Pherwani (2003) found a predictive association between EI and TL using only 32 participants using the Bar-On EQ-i to measure EI. This study uses a much more robust sample of 309 participants in studying the linkage between EI and TL. Therefore, from the theoretical arguments associating TL and EI, exploratory and preliminary evidences, it is hypothesised that TL as measured by the MLQ and EI as measured by the SUEIT and EIQ will demonstrate strong positive correlations:

H1.1: There will be a strong positive relationship between EI and TL.

¹⁶ The article describes this as “a love of the products” (Duckett & Macfarlane, 2003: 312).

¹⁷ EQ stands for Emotional Quotient.

¹⁸ The SMS-EQ dimensions are Energy, Stress, Optimism, Self-Esteem, Commitment to work, Attention to details, Change, Courage, Direction, Assertiveness, Tolerance, Consideration, Sociability.

Transactional Leadership comprises of active management by exception, passive management-by-exception and contingent reward. Here, it may be highlighted that, some authors (Barling et al., 2000) are prone to classifying contingent reward as a component of TL. Confirmatory factor analyses conducted on the Multifactor Leadership Questionnaire (MLQ) items show that contingent reward appears to load more onto TL than onto transactional leadership (Bycio et al., 1995; Carless, 1998). Also Barling et al (2000) argue that although the behavioural functions encompassing contingent reward are task-oriented (including giving feedback, establishing targets and rewarding performances), this originally transactional leadership element is “positive and discretionary” (Barling et al., 2000) like the four TL factors¹⁹. They also reason that contingent reward draws upon high levels of empathy and ability to manage relationships (Barling *et al.*, 2000).

Conversely management-by-exception and in a large number of cases, contingent reward²⁰ are considered to draw upon basic management behaviours rooted in reactive and routine actions, not necessarily relying upon empathy or emotional foundations (Barling et al., 2000). Hence, no relationship is foreseeable between management-by-exception (active and passive) and EI. Barling et al’s (2000) results displayed a lack of association between EI and active and passive management-by-exception as well as laissez-faire leadership. Sivanathan and Fekken’s (2002) study using the MLQ and EQ-i revealed a positive correlation between TL and EI. Nevertheless, they do not report the level of association displayed between the individual components of TL and EI.

H1.2: There will be no statistically significant relationship between EI and TrL.

Laissez-Faire leadership reflects absentee leadership or no leadership. This demonstrates a reluctance to indulge in any explicit leadership functions. As this encompasses lack of any leadership actions, therefore Laissez-Faire should display no association with EI at all (Barling *et al.*, 2000).

¹⁹ These are: individualised consideration, idealised influence, intellectual stimulation, inspirational motivation.

²⁰ In the absence of conclusive evidence, this thesis is taking a traditionally theoretical stance and presupposing a null relationship between transactional leadership and EI.

H1.3: There will be no statistically significant relationship between EI and Laissez-Faire Leadership.

Barling *et al.* (2000) have conjectured that “emotional intelligence predisposes leaders to use transformational behaviours” (Gardner & Stough, 2002: 70). Mandell and Pherwani (2003) attempted to ascertain any predictive association between EI and TL employing the EQ-i and MLQ instruments respectively, a sample of thirty-two participants and the statistical tool of hierarchical regression analysis. Results indicated that EI scores could contribute to predicting if managers’ are transformational leaders (Mandell & Pherwani, 2003). However, they highlight the exploratory nature of the study and emphasise the need for further research and replication of the above results (Mandell & Pherwani, 2003). A high level of concurrent validity between EQ-i and EIQ has been documented (Dulewicz, Higgs & Slaski, 2003). Hence, it is reasonable to expect a predictive association between EI and TL with EI as the predictor variable and TL as the criterion variable.

H1.4: EI scores will predict TL.

6.1.2 RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE, TRANSFORMATIONAL LEADERSHIP AND OUTCOMES OF LEADERSHIP

Some studies have attempted to present the association between EI and performance. The measure of the FRLM (MLQ) includes a measure for leadership outcomes which includes measuring the leaders’ effectiveness, satisfaction and extra effort.

Skinner and Spurgeon (2005) reported a significant and positive linkage between elements of empathy, particularly the empathy factor of ‘perspective taking’ and OL factors of extra effort and satisfaction. This was a cognitive scale entailing the comprehension of others perspectives or viewpoints. Therefore, it may be contended that the ability to perceive others perspectives, a core component of both EI models;

would lead to greater efforts on behalf of the leader, thereby generating greater satisfaction among followers.

It may also be reasoned that the above would also enhance effectiveness, the third component of OL. Some support for this may be gleaned, from the positive association presented between the EI component of empathy and supervisor TL resulting in enhanced team effectiveness; using the EQ Index by Rahim *et al.* (2002, 2006) (Polychroniou, 2009). Additionally, Rosete and Ciarrochi (2005) used an objective measure of performance and found that higher levels of EI were associated with higher levels of leadership effectiveness.

Hong *et al.* (2011) reasoned a positive relationship between EI and ‘motivation to lead’. The Wong and Law (2002) EI model component named ‘use of emotions’; demonstrated a positive linkage with motivation to lead. Use of emotions examines the extent to which the individual absorbs emotional phenomena in motivating themselves in their work and activities. Leaders who are highly motivated, may be further reasoned to impact on and enhance outcomes of leadership including extra effort, effectiveness and satisfaction. Carmeli’s (2003) study also suggested the work outcomes could be enhanced by EI.

Therefore, it is being hypothesised that self-ratings of EI will be positively related to leader ratings of OL as measured by the MLQ scales of extra effort, satisfaction and effectiveness.

H 1.5: There will be a positive relationship between EI and OL.

Wang and Huang (2009) reported a greater contribution to group and individual performance by TL than TrL. Similarly, Judge and Picolo (2004) discovered a stronger association between TL and the OL component of satisfaction in comparison to TrL and LFL. Satisfaction with the leader, also mediated the relationship between TL and turnover intention in Wells and Peachey’s (2011) study. TL has been seen to have a positive association with satisfaction, an OL component (Bass & Avolio, 1990; Bycio *et al.*, 1995; Griffith, 2004). Interestingly, Mannheim and Halamish (2008) did not find any significant relationship between TL and self-efficacy. However, Moshavi *et al.* (2003) found that TL predicted OL in a sample of

manufacturing, engineering and professional staff. The NHS is essentially engaged with care provision and maintenance of the highest quality. Therefore, it is contended that within this environment, use of the welfare-oriented TL style will generate higher OL levels. Therefore, a strong and positive association is expected between leaders' self-ratings of TL and OL.

H 1.6: There will be a positive relationship between TL and OL.

6.1.3 GENDER DIFFERENCES IN EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP

The literature on both EI and TL has alluded to possible gender differences. As a secondary aim of the study, the relationship between EI, TL and gender will also be explored.

Although Gottlieb's (1990) study did not support gender differences in TL, there have been arguments where it has been contended that women display higher TL qualities than men (Carless, 1998a; Eagly et al, 2003).

Mandell and Pherwani (2003) point out that "Research on gender differences in emotional intelligence has been limited" (Mandell & Pherwani, 2003: 391). Goleman (1995) discovered no difference between the general level of EI of men and women, while some researchers argued the possibility of women demonstrating higher EI than men (Mayer, Caruso and Salovey, 2000). In a study on call-centre staff and agents, Higgs (2004) discovered that females were significantly higher than males in the 'interpersonal sensitivity' and 'conscientiousness' elements of EI as measured by the EIQ (Higgs, 2004). According to Petrides et al (2004), conceptually EI comprises specific aspects of emotions (e.g. relationship skills), in which researchers have perceived females to outperform their male counterparts. Their study showed that females came out stronger on self-estimated scores of EI than males. Also participants provided significantly higher EI estimates for their mothers than their fathers. The findings of this study were in line with the stereotypical view that males have rationality as a dominant trait and females have emotionality as a dominant trait

(Petrides et al, 2004). Their finding, “might also indicate that perceptions of EI are more female normative than perceptions of IQ are male normative” (Petrides et al., 2004: 159). In Schutte et al’s (1998) study, women displayed significantly higher EI scores than men. The mean age for their sample was 30 years. Guastello and Guastello (2003) point out that Jung’s (1959, 1960) theory has alluded to greater emotional accessibility and expression among women than in men. Guastello and Guastello (2003) reported significantly higher EI scores for females than males in the older generation, on the Schutte et al (1998) EI scale; however, the “difference dissipated for the younger generation” (Guastello & Guastello, 2003: 669). Their study also indicated that individuals who did not conform to the gender stereotypes and exercised a “wider range of gender role behaviour and preference” were prone to be more emotionally intelligent (Guastello & Guastello, 2003: 670). Morand’s (2001) investigation, employing the display of photographs from Ekman & Freisen’s (1975) book, “*The Face of Emotion*” showed that females were more prone to emotionally intelligent accurately see the six emotions. Fatt and Howe’s (2003) study reported a lack of any significant differences between males and females on their overall or total EI scores as measured by *The Emotional IQ Test* developed by Mayer, Salovey and Caruso (www.eiconsortium.org). Nonetheless, male participants scored significantly higher on ‘Identifying Emotions’ and ‘Using Emotions’ while their female counterparts scored significantly higher on ‘Understanding Emotions’ and ‘Regulating Emotions’ (Fatt & Howe, 2003). In Petrides’ (2000) study using an EI measurement and an EI self-estimation test discovered that males believed they were highly emotionally intelligent. Their self-estimation matched their measured level of EI. However, females perceived themselves as less emotionally intelligent than they actually were. No significant difference was found between male and female overall EI scores. Both Petrides (2000) and Fatt and Howe (2003) conclude that their results indicate the strong possibility that men display a ‘self-enhancing bias’ and women tend to exhibit a ‘self-derogatory bias’. This may be likened to the concept of *Social Desirability* and the need to control for social desirability, which will be discussed in detail in a subsequent section.

A significant difference was reported by Mandell and Pherwani (2003) between EI scores of male and female managers, with female manager acquiring higher scores. They used the Bar-On EQ-i (1997) to measure EI. They specifically point out that the

results suggest that females are better equipped in ‘managing their own and others emotions’. However, their study displayed a lack of any differences in gender interaction with EI levels when predicting TL. Hence they suggest that there is no variance in the linkage between EI and TL with respect to male and female managers. Nikolaou and Tsaousis’ (2002) analyses employing the *Emotional Intelligence Questionnaire* (Tsaousis, 2003) found no significant variance between males and females in their overall EI scores. The only subscale in which female respondents displayed higher performance than their male counterparts was ‘Emotion Perception and Appraisal’).

The evidences documented to date have all been obtained via different instruments to measure EI. Different studies have tended to yield unique results. Therefore, research evidence on this issue is inconclusive. After conducting the literature review, the overall balance of the arguments would suggest that women have a higher level of EI and TL qualities. This study will therefore explore the possibility that women on the whole display a higher level of EI than men. By logic, if a higher level of EI leads to greater TL behaviour, then the TL will be higher in women than in men. The following hypotheses are therefore postulated.

H1.7: Female leaders will display higher TL than their male counterparts.

H1.8: Female leaders will display higher levels of EI than their male counterparts.

6.2 PHASE 2: EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP – SELF AND FOLLOWER RATINGS OF LEADERS

Researchers are gradually calling for more leadership studies based on follower and peer-ratings as opposed to self-ratings only. Harms and Credé’s (2010) meta-analysis highlighted that EI and TL correlations tended to be strong when EI and TL ratings were from the same source (leaders, peers, supervisors or subordinates). However, they suggest that multi-source ratings may yield different and more meaningful

results. They have put out a compelling call for EI and TL studies based on multi-source ratings. They say, “EI, which occurs mostly within the individual, should be assessed using self-reports or performance data. TL measures, on the other hand, are behavioral in nature and are best studied from the point of view of those affected by them. As a consequence, further research needs to focus more on using multiple ratings sources to establish an accurate picture of the nature of this relationship” (Harms & Credé, 2010).

This section investigates the relationship between EI and TL, by analysing the ratings provided by subordinates in comparison to the self-ratings of the leaders, with respect to TL. For the purposes of this section, in keeping with the pattern employed previously by Atwater and Yammarino (1997) and Sosik and Berson (2007), based on their self-other ratings of TL, leaders have been classified as ‘*overestimators*’, ‘*underestimators*’, ‘*in agreement/good*’ and ‘*in-agreement/poor*’. Overestimators are those leaders who will provide significantly higher self-ratings than those provided by their subordinates. Underestimators, entail those leaders who will award themselves significantly lower self-ratings than their subordinates. Leaders, in-agreement, will provide self-ratings similar to the ratings their subordinates award them. The ‘*in-agreement/good*’ leaders have TL self-ratings which are statistically similar to that of their followers and are higher TL scores. In contrast, ‘*in-agreement/poor*’ leaders have similar TL ratings to their followers and simultaneously have lower or unfavourable TL scores.

6.2.1 COMPARING FOLLOWER PERCEPTIONS OF LEADERS’ EMOTIONAL INTELLIGENCE ACROSS SELF-OTHER-AGREEMENT CATEGORIES

While follower perception may not be considered absolutely accurate, they are devoid of self-enhancing bias and social desirability bias. Therefore, the follower EI ratings and follower outcomes of leadership (OL) ratings of the focal leaders have been compared across the SOA categories.

Overestimators: Overestimators were found to have lower self-awareness as per follower-ratings than in-agreement or underestimating individuals (Van Velsor et al., 1992). Self-awareness is a core component of EI (Goleman, 1995; Cooper, 1995). Overestimators display high absenteeism, turnover and low organisational commitment. They experience unproductive emotions like anger, disgust and contempt which could lead to conflicts with colleagues (Atwater & Yammarino, 1997; Sosik & Godhalk, 2004). Overestimators are unlikely to be effective mentors or raise aspirations of others and will be related to low abilities to provide psychological support (Sosik & Godshalk, 2004). They are more likely to be oblivious of others feelings, needs and welfare. They are likely to engage in intimidating behaviour (Sosik & Jung, 2003; Sosik & Godshalk, 2004). This type of behaviour is characteristic of individuals with low EI. This type of behaviour would also impede engagement in TL behaviours, which is argued to be related to EI.

Furthermore, compared to managers who were in-agreement and underestimators, overestimators displayed less ingratiation behaviours (Sosik & Jung, 2003). Berson and Sosik (2007) found that overestimating managers had lower engagement in soft influence tactics including ingratiation, consultation and inspirational appeals. These are characteristics that would be reasonably manifested by individuals who are perceived as having low EI.

Moreover, individuals who display in-agreement/poor ratings tend to be aware of their weaknesses and other people's knowledge of their weakness (Sosik & Godshalk, 2004). This would imply that these leaders will be perceived as having high EI. However, Atwater and Yammarino (1997) indicate that in-agreement/poor leaders demonstrate less knowledge, competencies and unfavourable attitudes. This could be argued to tie in with low EI. However, it may be argued that their attitudes would be less unfavourable than overestimators and that they would be more socio-emotional in their interactions. Therefore, in-agreement/poor leaders may be argued to be more emotionally intelligent than overestimators.

Therefore, based on the above arguments, it is hypothesised that when follower ratings of their leaders' EI are compared across SOA categories, the overestimators will have significantly lower scores than the rest of the focal leaders.

H 2.1 'Overestimators' will have lower EI compared to the other SOA categories, as perceived by followers.

Underestimators have been linked to low self-worth and purpose-in-life (PIL) (Sosik & Megerian, 1999). Sosik and Godshalk (2004) argue that this can yield high display of modesty; while Becker and Martin (1995) argue that modesty, humility and self-deprecation are techniques used to induce favourable impressions. Individuals keen to generate favourable impressions may be argued to show an awareness of other people's emotions and act in the interests of their welfare. They are also seen to be pleasant and have high interpersonal skills (Sosik & Godshalk, 2004), a key element of EI. Underestimators engage in rational behaviours (Berson & Sosik, 2007) which may be linked to high EI. Therefore, in addition to the above hypothesis which compares EI of overestimators and underestimators; it may be further reasoned that it is more likely for leaders who are underestimators to be seen as having higher EI levels by their followers than focal leaders in the in-agreement/poor and in-agreement/good categories.

H 2.2: 'Underestimators' will have higher EI than in-agreement/good and in-agreement/poor leaders, as perceived by followers.

In-agreement (good or poor): ratings may be considered more desirable than disagreement, as this indicates mutual agreement between the leader and follower. Leaders in the in-agreement/good category have displayed lower levels of absenteeism and turnover (Atwater & Yammarino, 1997). These leaders are expected to perform well, be aware of their good performance and thereby tend not to get entangled in conflicts (Yammarino & Atwater, 1997). They have also been related to optimum interpersonal and nurturing relationships (Sosik & Godshalk, 2004). Roush and Atwater (1992) indicated that individuals whose self-ratings were in agreement with their follower's ratings had high 'feeling' scores rather than 'thinking' scores on the Myers-Briggs Type Indicator. Individuals who are in-agreement/good are reasoned to be more consultative and ingratiating to ensure an appealing image than in-agreement/poor leaders (Berson & Sosik, 2007). Church (1997) argued that individuals with in-agreement/good scores would be more

inclined to receive and act upon feedback received, thereby altering their behaviour appropriately. In-agreement/good leaders are able to alter their behaviour to establish emotional bonds with their followers (Berson & Sosik, 2007). Berson and Sosik (2007) also imply that they are related to those in-agreement leaders who were found to display charismatic/TL linked to elements argued to be EI aspects (Sosik & Megerian, 1999). Thereby it is arguable that these leaders will receive high EI ratings from their followers. Therefore, bearing in mind the above arguments, in-agreement/good focal leaders are being expected to be seen as having higher EI by their followers than in-agreement/poor; and the following is being hypothesised:

H 2.3: 'In-agreement-good' leaders will receive higher EI ratings from their followers than 'in-agreement/poor' leaders.

6.2.2 COMPARING FOLLOWER PERCEPTIONS OF LEADERS' OUTCOMES OF LEADERSHIP ACROSS SOA CATEGORIES

Some studies indicate that SOA agreement is associated with leader performance (Bass & Yammarino, 1991; Furnham & Stringfield; 1994). *Overestimators* would be inclined to discount negative feedback and accept positive feedback as correct (Sosik, 2001). They are more inclined to ignore crucial self-development information (Atwater & Yammarino, 1997). Therefore, overestimators would struggle to alter their behaviour and thereby receive lower OL ratings from their followers. An overestimator may be unaware of their lack of TL and therefore would not be able to suitably alter their behaviour to improve the outcomes (Sosik & Godshalk, 2004). Overestimators are expected to have the lowest ratings on performance (Atwater & Yammarino, 1992) and they are generally linked to the lowest ratings of managerial effectiveness (Atwater & Yammarino, 1992; Church, 1997). Therefore, it may be postulated that overestimators will have lower OL ratings than leaders who are underestimators and in-agreement (good/poor).

H 2.4: Overestimators will display lower OL scores than others as perceived by follower.

Underestimators: Sosik and Godshalk (2004) state that underestimators may fail to perceive their own strengths. Yammarino and Atwater (1997) stated that mixed performance outcomes are linked with underestimators. However, Church (1997) found that followers of underestimators awarded higher scores on behaviour effectiveness to underestimators than those of leaders who are in-agreement or overestimators. Atwater et al. (1995) also reported highest ratings for underestimators on managerial performance. Therefore, it may be argued that underestimators will receive higher ratings on OL by their followers than focal leaders in the other SOA categories. As the comparison between underestimators and overestimators has been included within the purview of H 2.4 above, the following hypothesis compares the ratings awarded by followers to underestimators with in-agreement/good and in-agreement/poor focal leaders.

H 2.5: Underestimators will have higher OL scores than in-agreement/good and in-agreement/poor focal leaders, as per follower ratings.

According to Atwater and Yammarino (1997) leaders who had in-agreement ratings were seen as more effective performers. However, this did not differentiate between the in-agreement/good or poor leaders. Likewise individuals who are in-agreement/good; on realising their effectiveness will maintain or enhance the said behaviour and yield higher outcomes. Leaders in the in-agreement/good category are inclined to take feedback on board and adapt their behaviour accordingly (Church, 1997). This helps achieve positive expectations and outcomes (Atwater & Yammarino, 1997). Nonetheless, Atwater and Yammarino (1997) argued that agreement between self and other-ratings indicating unfavourable scores for the focal individual would result in negative outcomes (in-agreement/poor leaders). Similarly self-raters who are in-agreement with others and have favourable leadership scores have displayed very positive and enhanced performance (Atwater & Yammarino, 1997). In the above hypotheses; overestimators are being argued to display lower OL scores than the other SOA categories and underestimators are being argued to display higher OL scores than the other SOA categories. Hence, taking into account, Atwater and Yammarino's (1997) argument; it is being postulated that in-agreement/good leaders will have significantly higher OL scores than in-agreement/poor leaders.

H 2.6: OL scores will be higher for in-agreement/good leaders than in-agreement/poor leaders, as perceived by followers.

6.2.3 CORRELATIONS BETWEEN EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP ACROSS SOA CATEGORIES

This section has been informed significantly by the work of Sosik and Megerian (1999) who argued different relationships between EI predictors and TL for leaders in different SOA categories. Atwater and Yammarino (1997) also indicated that “SOA...could moderate predictor-outcome relationships” (Fleenor et al., 2010). Aspects of EI, like interpersonal sensitivity and emotional resilience [in the Higgs and Dulewicz EI model (2002)] and ‘understanding emotions external’, ‘emotional management’ and ‘emotional control’ [in Palmer and Stough’s (2001) SUEIT model of EI] strongly draw upon interpersonal orientation or interpersonal intelligence (Gardner, 1993). This may also be argued to be an inherent aspect of TL, through which followers may be encouraged and motivated to work in the interests of the group or organisation and align their goals and aspirations with those of their organisation. Mayer and Geher (1996) have highlighted that empathetic individuals tend to be ‘in agreement’ with their peers and group members. In Sosik and Megerian’s (1999) study; for in-agreement leaders (also referred to as self-aware leaders in their study), it was seen that follower and self-ratings of TL were positively related to purpose-in-life (PIL), personal efficacy, interpersonal control and social self-confidence which Sosik and Megerian argued were the predictors of EI. They likened interpersonal control to the relationship management aspect of EI (Goleman, 1995) and personal efficacy to the motivational aspect of TL (Bass, 1985, Burns, 1978; Ross & Offerman, 1997). Although Sosik and Megerian (1999) did not differentiate between favourable (good) and unfavourable (poor) categories for leaders in agreement; however Berson and Sosik (2007) assume that Sosik and Megerian’s (1999) findings relating TL and facets of EI, pertained to leaders in the in-agreement/good category. In the absence of further information, this study accepts this assumption in arguing the following hypothesis. In the Higgs and Dulewicz (2002) model of EI, personal efficacy may also be related to the ‘Motivation’ and

'Influence' facets of EI. Thus a linkage is noticeable between leaders' belief in their ability to make things happen and their capacity to remain motivated and persuade others to relate to and pursue their goals and vision. Sosik and Megerian (1999) point out that PIL can be instrumental in nurturing self-awareness, which they argue to be inherent to both TL and EI. They point out that social-confidence is encompassed by the structural elements of self esteem, which in turn relates to TL (Burns, 1978) and EI (Goleman, 1995). Hence, for leaders who are in-agreement/good, self-rated and follower-rated TL and facets of EI have the potential to be positively related. As argued earlier in H1.1 EI and TL is expected to be significantly and positively correlated, therefore leaders in the in-agreement/good SOA category should have high EI as they have high self-ratings and follower-ratings on TL. There is arguably a need to investigate the relationship between leaders' self-ratings of EI with the follower-ratings of TL. These results would be useful for training, development, mentoring and endeavours towards continued professional advancement. Thus, for the in-agreement/good SOA category leader self-rating of EI will be positively correlated to follower-ratings of leader TL. This study will analyse this relationship, adopting the SUEIT (Palmer & Stough, 2001) model of EI and the Higgs and Dulewicz (2002) model of EI, which has not been done before. In the light of the above arguments, the following is being hypothesised.

H 2.7: Self-rated EI will be positively related to follower-rated TL for 'in agreement/good' leaders.

Sosik and Megerian's (1999) study did not differentiate between leaders in-agreement who had favourable or unfavourable scores. Therefore, this is the first study attempting to differentiate between the association of EI and TL for leaders who are in-agreement/good and leaders in-agreement/poor. Focal leaders in the in-agreement/poor category have low self-ratings and follower-ratings on TL. Therefore, if as per H1.1: EI and TL are positively correlated; then leader self-ratings of EI should be low. However, these focal leaders are in-agreement with followers regarding their low TL scores which indicate a level of self-awareness (Sosik & Megerian, 1999) and understanding between the leader and follower(s) (Atwater & Yammarino, 1997). Self-awareness is a core component of EI and it is arguable that leaders must have a substantially high level of EI in order to award

themselves TL self-ratings which are accurate enough to be in agreement with their followers' ratings. Yet again, by virtue of being accurate and low in their TL, a reluctance to invest in performance improvement is arguable. This would go against the grain of core EI components especially managing emotions, controlling emotions and employing emotions in decision-making. If the leaders actively engaged in high EI behaviour, it may be reasoned that their TL would have been high. Therefore, while their accuracy in self-rated TL contributes towards establishing a certain level of self-awareness, it does not simultaneously satisfy all the factors contributing to high EI; insinuating low levels of EI for focal leaders who are in-agreement/poor. Hence, this study hypothesises, that focal leaders' who are in-agreement/poor, self-rated leader EI will be positively correlated to follower-rated TL.

H2.8: Self-rated EI will be positively related to follower-rated TL for 'in agreement/poor' leaders.

Overestimators may be defined as individuals who perceive themselves as socially desirable. Atwater and Yammarino (1997) argue that overestimators would be prone to displaying high levels of public self-consciousness and rating themselves high on self-monitoring. Public self-consciousness relates to that aspect of self-awareness which projects towards the external environment. Self monitoring entails regulation of ones behavioural expressions in keeping with the prevalent circumstances and social aptness (Snyder, 1974). These are in keeping with facets of EI (Goleman, 1995; Sosik & Megerian, 1999; Higgs & Dulewicz, 2002). Tunnell (1980) is reported to point out that, individuals with high levels of self-monitoring display inflated self ratings (Sosik & Megerian, 1999). Both self-monitoring and public self-consciousness have been reported to be associated with TL as well. Self monitoring has been related to the self-presentation tactics of transformational leaders, employed while influencing and motivating followers. Furthermore, public self-consciousness which essentially entails perceiving oneself as a social being affecting others, has been related to displaying charisma as a transformational leader (Sosik & Megerian, 1999). Despite these arguments, Sosik and Megerian (1999) found non-significant negative associations between TL and EI elements. However, they do not explain clearly the cause for these unexpected findings other than saying that the overall results support the thesis that EQ elements are founded on self-awareness (Sosik &

Megerian, 1999). Furthermore, it is worth noting that Sosik and Megerian (1999) employed proxy measures of EI predictors and not instruments designed to measure EI, which have been employed in the current study. In addition, overestimators by virtue of their tendency to over-rate themselves will be inclined to award themselves relatively higher scores on TL and EI. Therefore, taking this and Sosik and Megerian's (1999) above arguments into account, it may be postulated that for overestimators, self-ratings of EI will be positively associated to follower-ratings of TL. Hence the following hypothesis:

H 2.9: Self-rated EI will be positively related to follower-rated TL for those leaders who are 'overestimators'.

As argued by Yammarino and Atwater (1997) underestimators tend to misidentify their fortes and flaws. These individuals are considered to display high levels of modesty, emotional fluctuations and low self-esteem. Lack of accurate identification of one's own strengths and weaknesses would be inconsistent with the EI components encompassing self-awareness as well as TL. Emotional instability is also arguable as inconsistent with the empathy, which is essential to both EI and TL (Sosik & Megerian, 1999). Sosik and Megerian's (1999) study discovered that for underestimators, although TL correlated with social self-confidence and PIL, it was unrelated to all the other EI elements considered in their study. In this study employing two different EI models (SUEIT, 2001; Higgs & Dulewicz, 2002), self-ratings of leader EI is expected to show a non-significant association with follower-ratings of TL for underestimators:

H 2.10: Self-rated EI will be unrelated to follower-rated TL for those leaders who are 'underestimators'.

Table 6.1: Phase 1 Hypotheses - Leaders' Self-Ratings

NO.	HYPOTHESES – PHASE 1
EMOTIONAL INTELLIGENCE AND FULL RANGE LEADERSHIP: SELF-RATINGS	
H 1.1	There will be a strong positive relationship between EI and TL.
H 1.2	There will be no statistically significant relationship between EI and TrL.
H 1.3	There will be no statistically significant relationship between EI and Laissez-Faire Leadership.
H 1.4	EI scores will predict TL.
OUTCOMES OF LEADERSHIP	
H 1.5	There will be a positive relationship between EI and OL.
H 1.6	There will be a positive relationship between TL and OL.
GENDER DIFFERENCES	
H 1.7	Female leaders will display higher TL than their male counterparts.
H 1.8	Female leaders will display higher levels of EI than their male counterparts.

Table 6.2: Phase 2 Hypotheses - Self-Ratings and Follower-Ratings of Leaders

NO.	HYPOTHESES – PHASE 2
COMPARING FOLLOWER PERCEPTIONS OF LEADER EI ACROSS SOA CATEGORIES	
H 2.1	'Overestimators' will have lower EI compared to the other SOA categories, as perceived by followers.
H 2.2	'Underestimators' will have higher EI than in-agreement/good and in-agreement/poor leaders, as perceived by followers.
H 2.3	'In-agreement-good' leaders will receive higher EI ratings from their followers than 'in-agreement/poor' leaders.
COMPARING FOLLOWER PERCEPTIONS OF LEADER OL ACROSS SOA CATEGORIES	
H 2.4	Overestimators will display lower OL scores than others as perceived by follower.
H 2.5	Underestimators will have higher OL scores than in-agreement/good and in-agreement/poor focal leaders, as per follower ratings.
H 2.6	OL scores will be higher for in-agreement/good leaders than in-agreement/poor leaders, as perceived by followers.
CORRELATIONS BETWEEN EI AND TL ACROSS SOA CATEGORIES	
H 2.7	Self-rated EI will be positively related to follower-rated TL for 'in agreement/good' leaders.
H 2.8	Self-rated EI will be positively related to follower-rated TL for 'in agreement/poor' leaders.
H 2.9	Self-rated EI will be positively related to follower-rated TL for those leaders who are 'overestimators'.
H 2.10	Self-rated EI will be unrelated to follower-rated TL for those leaders who are 'underestimators'.

6.3 CHAPTER CONCLUSION

This chapter has delineated the hypotheses for this thesis and their justifications. The attempt is to investigate the impact of EI on leadership as well as both EI and leadership on OL, within a change environment; based on both leader self-ratings and follower-ratings of leaders. In doing so, this study employs two different measures of EI, one aligning with the ability camp, the other being a mixed-model. This research has been divided into two phases. The first phase is completely based on leader self-ratings. The second part is based on a combination of leader and follower-ratings of the leaders classified into self-other-agreement categories.

The first phase hypothesises the linkage between EI and leadership styles in the FRLM (TL, TrL, LFL). It further investigates the predictive impact of EI on TL. Moreover, both EI and TL can arguably influence leadership outcomes. Therefore, this thesis postulates linkages between EI, TL and OL. In addition, the gender differences in EI and TL are proposed as the literature suggests a gender bias in both EI and TL behaviours.

Most leadership studies have relied on leader self-ratings. Hence, there is a dearth of studies taking into account both leaders' and followers' perceptions about the leaders. This PhD addresses this gap in the second phase of this study. Here, the leaders are classified into SOA categories of overestimators, in-agreement/good, in-agreement/poor and underestimators based on their TL scores. Thereafter this thesis hypothesises differences in EI self-ratings across the SOA categories. It also hypothesises differences in OL self-ratings across the SOA categories. Different types of interactions between EI and TL have also been postulated across the SOA categories.

Having presented the hypotheses for this study in this chapter, the next chapter discusses the research design and methodology adopted in this thesis.

CHAPTER 7: RESEARCH DESIGN, METHODOLOGY, AND ETHICS

7.1 INTRODUCTION

This chapter discusses the research methodology and methods embraced in conducting this research. This chapter elucidates the philosophical paradigm this research aligns with, the research methods and study design. Ethical considerations have been analysed followed by a discussion of the data collection and data analysis methods. Issues of validity, reliability and generalisability have also been explicated here.

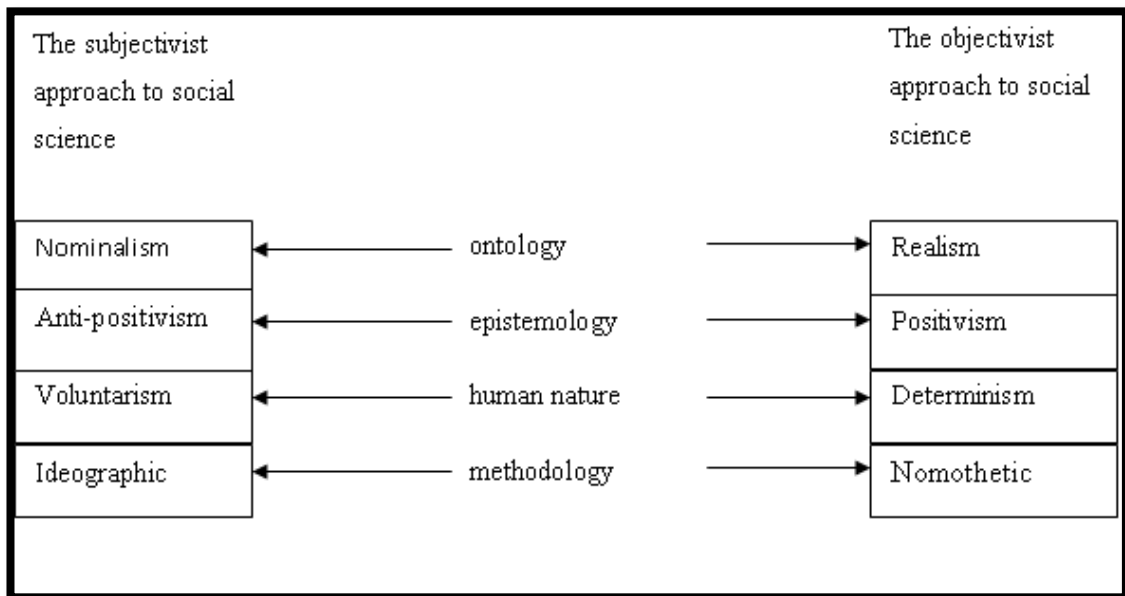
7.2 PHILOSOPHICAL ISSUES INVOLVED IN RESEARCH STRATEGIES

Lehaney and Clarke (1995) state, “All research is undertaken within a philosophical paradigm” (Lehaney & Clarke, 1995: 16). To employ the most appropriate research strategy, an analysis of certain philosophical issues underpinning any research design, mainly issues of ontology, epistemology, methodology and methods, the debates and the relationship between them, would be beneficial.

The philosophical debate in social research stems from two distinct perspectives, ‘functionalism’ or ‘positivism’ and ‘interpretivism’ or ‘phenomenology’. They represent two extremes of a single continuum encasing a spectrum of philosophical assumptions and approaches. They resemble objectivity and subjectivity in social science and social research respectively. Gill and Johnson (1997) highlight that the critique of positivism’s tendency to adopt a reductionist approach towards human behaviour lead to the rise of interpretative research approaches. These two perspectives frame the range of ontological, epistemological, methodological and method related philosophical assumptions underwriting the various attitudes and approaches to social science and social research.

The following diagram illustrates the two possible extremes in the different philosophical assumptions regarding the nature of social science.

Figure 7.1.: The Subjective-Objective Dimension in Analysing Assumptions about the Nature of Social Science



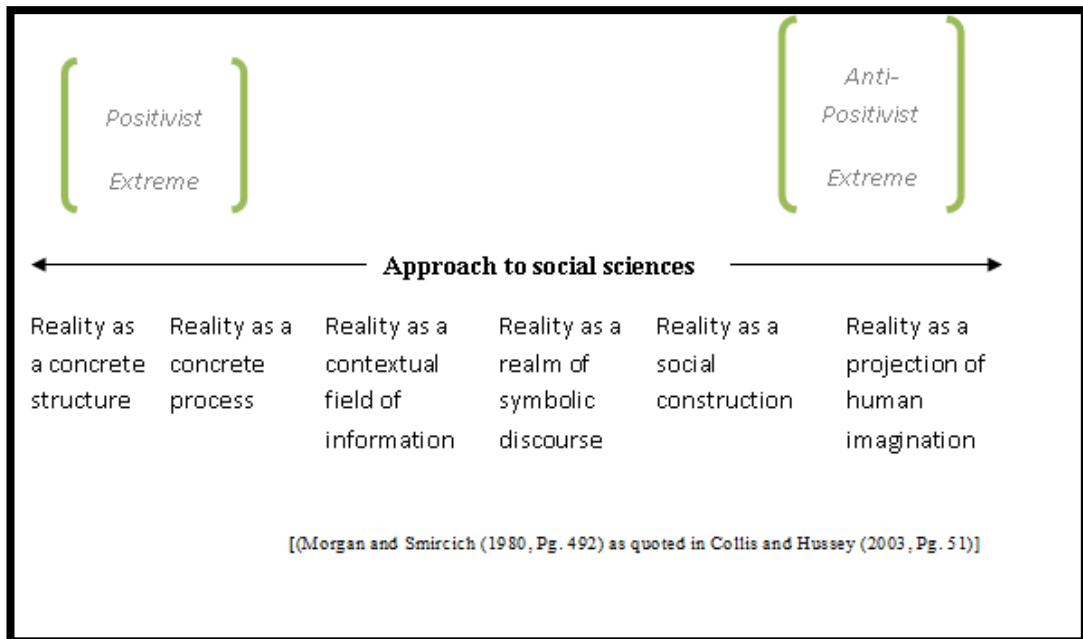
(Burrell & Morgan, 1979: 3)

Ontology studies the nature of being or existence, or those things that exist (Williams & May, 1996: 200). It addresses the nature of existence of the world or reality. The objective dimension or the positivist perspective assumes that social reality is externally existent in tangible and comparatively unalterable forms irrespective of whether individuals recognise the presence of such structures (Burrell & Morgan, 1979: 4). Here, the presence of concrete structures are visualised and assumed. This is **Realism**.

In the subjective dimension (phenomenological or anti-positivist perspective) social reality or the real world is a manifestation of human understanding and interpretation. Reality is conjured via awarding certain labels and terms, which have a shared meaning and understanding among individuals. It is subjective of the nature of human cognition in implementation. This is **Nominalism**, in extreme contrast to realism (Burrell & Morgan, 1979: 4).

The following diagram represents the continuum of core ontological assumptions as explained by Morgan and Smircich (1980).

Figure 7.2.: Continuum of Core Ontological Assumptions



Originating from the Greek word ‘*episteme*’ meaning knowledge, epistemology studies the theory of knowledge. It evaluates how knowledge is obtained and the justifications of the knowledge so obtained (Jary & Jary, 2000; Williams & May, 1996). It influences the questions we want to or could ask and assesses the assumptions and correctness of what we already know.

The **Positivism-Anti-Positivism** continuum embodies epistemological assumptions. The traditional path to reaching true knowledge from an objective positivist stance ensures verification through repeatability in controlled conditions or by checking if falsification of the concerned hypothesis is possible.

Anti-Positivism may assume several forms, namely phenomenology or interpretivism, feminism and so on. This subjective perspective believes that true knowledge is obtainable only via understanding the viewpoint of the people actively

interlinked with the phenomena under investigation; not via external observation (Burrell & Morgan, 1979).

Researcher positioning can mould the nature of knowledge acquirable, the degree of justification and validity of the research work. The primary question posed by the epistemology of a research is, whether the researcher is autonomous from the investigation or does he/she intermingle with that which is being researched (Collis & Hussey, 2003).

Positivism treats the researcher as being independent of the work researched, such that neither the researcher affects the subject of investigation, nor is he/she affected by the subject (Remenyi et al, 1998). In Anti-positivism the researcher becomes a part of the research process whereby his/her results maybe affected by his/her viewpoints and sometimes, his/her research could even contribute to changing or bettering the subject under scrutiny (i.e. as in feminism and participatory action research).

Methodology is the overall process and approach of research, including all the methods used to conduct the research and the procedures used. Methodology analyses the tools and strategies employed. It questions the validity and reliability of such instruments in arriving at the truth. It is the operational “framework within which research is conducted” (Remenyi et al, 1998: 28).

Methodology ranges on the continuum of **Nomothetism** and **Ideography**. The objective Nomothetic extreme emphasises using “systematic protocol and techniques” (Burrell & Morgan, 1979: 6) or tangible modus operandi like testing hypothesis, in keeping with benchmarks of scientific rigour; which may adopt quantitative forms like surveys and personality tests.

Ideography stresses proximity to the subject and development of a detailed insight into their historical reality. This methodology does not follow predefined research methods but gradually allows for the revelation of the subject’s characteristics and components as the inquiry proceeds (Burrell & Morgan, 1979; Remenyi et al, 1998).

Methods refer to individual tools and techniques adopted in conducting research, broadly classifiable as **Quantitative** (objective) and the **Qualitative** (subjective). Quantitative methods allude to positivist, empirical techniques that represent data in a concrete or numerical, cardinal or ordinal form (Jary & Jary, 2000). Qualitative methods are more phenomenological where the interviewer extracts information usually in an unstructured fashion. Examples include participant observation and case studies. Nevertheless this may be finally represented quantitatively after analysis (Jary & Jary, 2000). Methods may be mixed or triangulated depending on the research needs and researcher discretion, to enhance rigour and strength (Darlington & Scott, 2002).

Research issues are affected by value or value freedom. While the positivist paradigm favours research free of researcher values and bias; the phenomenologist paradigm underlines that no research is without values. Research should proceed with the explicit understanding and acceptance, that it is taking with it relevant researcher values; which do *not* necessarily affect research adversely. "...values might be said to constitute the very subject matter of social sciences" (Williams & May, 1996: 108).

7.3 METHODOLOGICAL APPROACHES AND RESEARCH PARADIGMS IN SOCIAL SCIENCE RESEARCH

The term paradigm was initially coined by Kuhn (1970). Guba and Lincoln (1994) explain a paradigm as a collection of basic beliefs or metaphysics representing a worldview based on ontological, epistemological and methodological assumptions. A paradigm is a system of thinking encompassing basic assumptions, questions and techniques of research to be employed. A "basic orientation to theory and research" (Neuman, 2003: 70). Simultaneously it represents, "people's value judgements, norms, standards, frames of reference, perspectives, ideologies, myths, theories, and approved procedures that govern their thinking and action" (Gummesson, 2000: 18). Table 7.1 illustrates the different possible paradigms like positivism, postpositivism, critical theory or critical social science, feminist research, postmodern research,

constructivism and interpretivism with their philosophical underpinnings and properties.

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Table 7.1: Alternative Inquiry Paradigms and a Summary of the Differences

Issues and Criteria	Positivism	Postpositivism	Interpretivism	Critical Social Science	Constructivism	Feminism	Postmodernism
Inquiry aim	Discovering natural laws and explanation to enable prediction and control		Understand and describe meaningful social action	Critique, smash myths and enable transformation through empowerment; emancipation and restitution	Comprehension and reconstruction	Smash myths and empower people to advance values of nurturing others and equality	Express the subjective self
Nature of social reality	Stable preexisting patterns or order that can be discovered		Fluid definitions of a situation created by human interaction	Conflict filled and governed by hidden underlying structures		Conflict-filled structured power relations that keep many people oppressed	Chaotic and fluid without any real patterns or master plan
Nature of human beings	Self-interested and rational individuals who are shaped by external forces		Social beings who create meaning and who constantly make sense of their worlds	Creative, adaptive people with unrealized potential, trapped by illusion and exploitation		Creative, gendered beings with unrealized potential who are often trapped by unseen forces	Creative, dynamic beings with unrealized potential
Nature of knowledge	Verified hypothesis established as facts or laws	Nonfalsified hypotheses that are probable facts or laws		Structural and historical insights	Individual reconstructions coalescing around consensus		
Knowledge accumulation	Accretion-“building blocks” adding to the “edifice of knowledge”; generalizations and cause-effect linkages		Historical revisionism; generalization by similarity	More informed and sophisticated reconstructions; vicarious experience			
Theory looks like	A logical deductive system of interconnected definitions, axioms and laws		A description of how a group’s meaning system is generated and sustained	A critique that reveals true conditions and helps people see the way to a better world		A critique that reveals true conditions and helps people see the way to a better world	A performance or work of artistic expression that can amuse, shock , or stimulate others
An explanation that is true	Logically connected to laws and based on facts		Resonates or feels right to those who are being studied	Supplies people with tools needed to change the world		Supplies ideas/tools to help liberate people from oppressive relations	No one explanation is more true; all are true for those who accept them
Good evidence	Based on precise observations that others can be repeated		Is embedded in the context of fluid social interactions	Is informed by a theory that unveils illusions		Is informed by a theory that unveils illusions	Has aesthetic properties and resonates with people’s inner feelings/emotions.
Place for Values	Influence or inclusion of values is kept to minimal except when choosing a topic for research		Values are an integral part of social life: no group’s values are wrong, only different	All science must begin with a value position; some positions are right, some are wrong	Values and value influences are included and considered ineluctable in shaping inquiry outcomes	Values are essential to research, and feminist ones are clearly preferred	Values are integral to research, but all value positions are equal

7.4 PHILOSOPHICAL AND PARADIGMATIC ORIENTATION OF THIS RESEARCH

There exist alternative approaches to conduct the same investigation and no one best method. However, it does not imply that ‘anything goes’. The most effective approach is determined by the nature of the investigation; and unique philosophical assumptions, principles and standpoints of every approach (Gill & Johnson, 1997; Neuman, 2003). Research on EI and TL (a key component being studied in this thesis) (Schulte, 2002) may be and has been conducted within both positivist and phenomenological paradigms and may be addressed from any position on the objective-subjective continuum. The choice of research paradigm depends greatly on the researcher’s worldview.

7.4.1 INDUCTIVE VERSUS DEDUCTIVE RESEARCH ORIENTATION

This study conforms to deductive research whereby the investigation has developed a hypothesis based on existing theories for the purpose of empirical testing. The connotations of the theoretical constructs of TL and EI, in their existing forms shall be tested and evaluated within change oriented organisations via relevant psychometric instruments. This is deductive research as opposed to inductive research, where the researcher develops and generates new or additional theory through empirical observation and the collection and analysis of real world data, concepts, models (Gummeson, 2000; Collis & Hussey, 2003). Although attempts are still being made to augment and enhance the theory of EI and FRL model (especially TL), review of the literature reveals ample theory on both EI and the FRLM which are in need of testing in the practical field of work. Hence, a deductive study will be conducted within this thesis.

7.4.2. ONTOLOGICAL STANDPOINT

The ontological standpoint of the researcher and research study will determine the perception of the reality or nature of being; of the phenomena of the leadership styles in the FRLM (with special emphasis on TL) and EI, their association, impact and implications for organisations as well as leaders and followers in institutions characterised by organisational change. If the researcher has a nominalist ontology, then this research study would also perceive EI and the FRL styles as manifestations of individual context based interpretations.

However, this same research may align with the realist ontology. In this research, the ontological assumption entails realism believing that the nature of being of EI, the leadership styles in the FRLM, and their phenomena in transformational circumstances; are individual variables and processes existing out there in their own right. This ontological assumption, embracing objective positivism or postpositivism (Creswell, 2003) will in turn inform the epistemology and methodology of this research.

7.4.3. EPISTEMOLOGICAL STANDPOINT

This investigation has a positivist epistemological assumption perceiving EI and leadership styles as realist phenomena amenable to laws of behaviour and therefore generalisation.

It seeks to study the linkage between EI and the FRL styles (particularly TL) within the change milieu of the NHS. Thereby this thesis aims to validate theory and preliminary studies propounding an association between the two constructs. It will generate new knowledge by echoing leader self-ratings, follower-ratings of leaders as well as evaluating the dyadic relationship between the leaders and their followers. Furthermore, the background of the health services for this study will make unique contributions to the existing knowledge on EI and FRL (especially TL). Moreover, this research endeavours to validate previous research through establishing the association between EI and TL (albeit within a different environment, employing

different testing instruments, drawing upon follower responses in addition to leader responses unlike most other studies and specifically within a dynamic fast-changing background), both causal and otherwise through repeatability. The epistemology aims to describe the experienced phenomena (Trochim, 2002) borrowing the hypothetico-deductive model believing that reliable and valid knowledge is generated through empirical hypothesis testing, utilising procedures, ensuring minimal researcher value influence. Objective psychometric instruments will be employed. This will also increase the EI instrument reliability.

Nonetheless, this research perceives reality as a concrete process (rather than the extreme of a concrete structure) on the positivist anti-positivist continuum (figure 7.2). It acknowledges that the research subject is human nature, interactions and relationships which maybe operationalised and studied and that human behaviour is transformational (Morgan & Smircish, 1980). The psychometric instruments that will be employed in this study are designed so that they take into account the social nature of human relationships. These instruments are designed based on strongly established and widely validated, procedures of psychological instrument development which have been proven to be reliable. There is also a self-report element whereby the nature of the items in these instruments require the respondent to take into account their specific social circumstances while responding to the questions (Lazarte, 2003).

7.4.4. METHODOLOGICAL STANDPOINT

The research framework is established within the methodology. If this research study on EI and leadership had a nominalist ontology and a phenomenological epistemology, then the relevant methodology would have been ideography using hermeneutic, exploratory techniques discovering the research process as the research advanced. Nevertheless, with a realist ontology and positivist epistemology, as portrayed above, the methodological choice of this research is nomothetism employing instruments, personality tests and statistical measures.

Thus this investigation juxtaposes itself within the sphere of the positivist paradigm in preference to the other extant paradigms illustrated in table 7.1. The following section discusses the methods and design of this study.

7.5 RESEARCH METHODS AND STUDY DESIGN

This section discusses the research methods and design of this study.

This study is essentially positivist and conforms to deductive research whereby the investigation has developed a hypothesis based on existing theories for the purpose of empirical testing. The connotations of the theoretical constructs of EI and leadership styles, in their existing forms shall be tested and evaluated within change oriented environment of the NHS via relevant psychometric instruments.

While the major thrust of the methodology is survey based, in order to gather contextual information on the nature of the change processes that the NHS was undergoing at the time of data collection and their impact on staff, approximately six qualitative face-to-face interviews were conducted with leaders in the NHS. The interview schedule has been presented in appendix 9.

The next sections delve into the methods adopted to conduct the survey for this study including a review of the target population, sampling design, sample size, reflection of the ethical considerations, data collection instruments, data collection plan and data analysis planned for this investigation.

7.5.1 TARGET POPULATION AND STUDY SUBJECTS

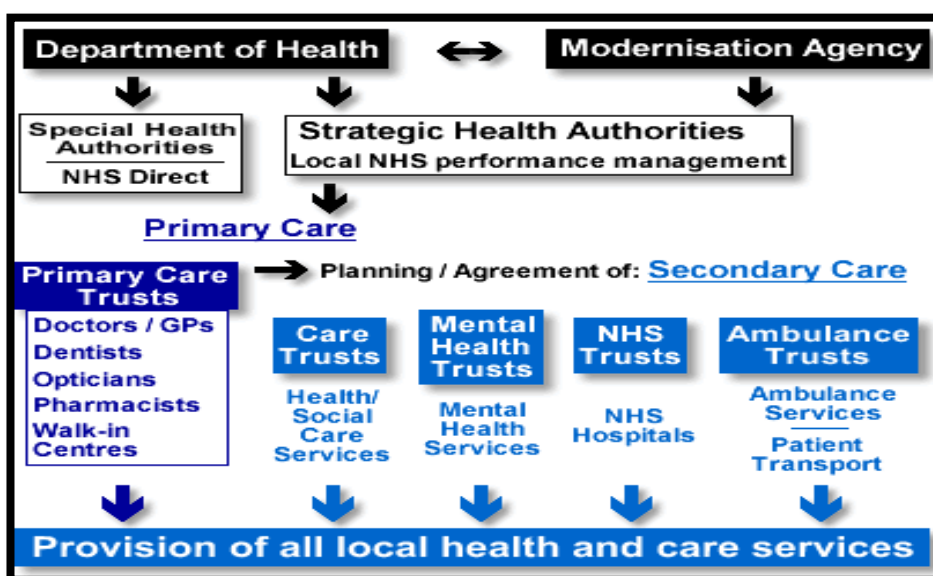
Target population is the “specific, complete group relevant to the research project” (Zikmund, 2000: 342). This study is based within the dynamic environment of the NHS, hence the target population is situated within the NHS. Preliminary evidence and arguments indicate that EI can be crucial in aiding the leadership and management of change processes (Huy, 1999; Chrusciel, 2006). Past research has

evidenced that TL is a type of leadership most desirable in times of change (Eisenbach et al., 1999; Tichy & Devanna, 1990). Some research has begun to assume and insinuate the need for EI within the healthcare environment (Pettijohn et al., 2010; Deshpande, 2009; Skinner and Spurgeon, 2005). The phenomenon of change is endemic in the NHS with perpetual and visible efforts to improve its functioning and provision of services as established in chapter 2. Hence, the NHS staff, represent a very relevant and ideal target population for this study.

Leadership is essentially definable as an influence process whereby one individual influences another individual or group of individuals (Northouse, 2004). Within organisations, managers are often perceived to and expected to exhibit such leadership qualities. Leadership is essentially implemented in organisational structures which inherently comprise a degree of hierarchical and team/group orientation. This is embedded within the organisational, functional and managerial set-up of the NHS. Hence the target population of this thesis has been extrapolated from the staff of NHS.

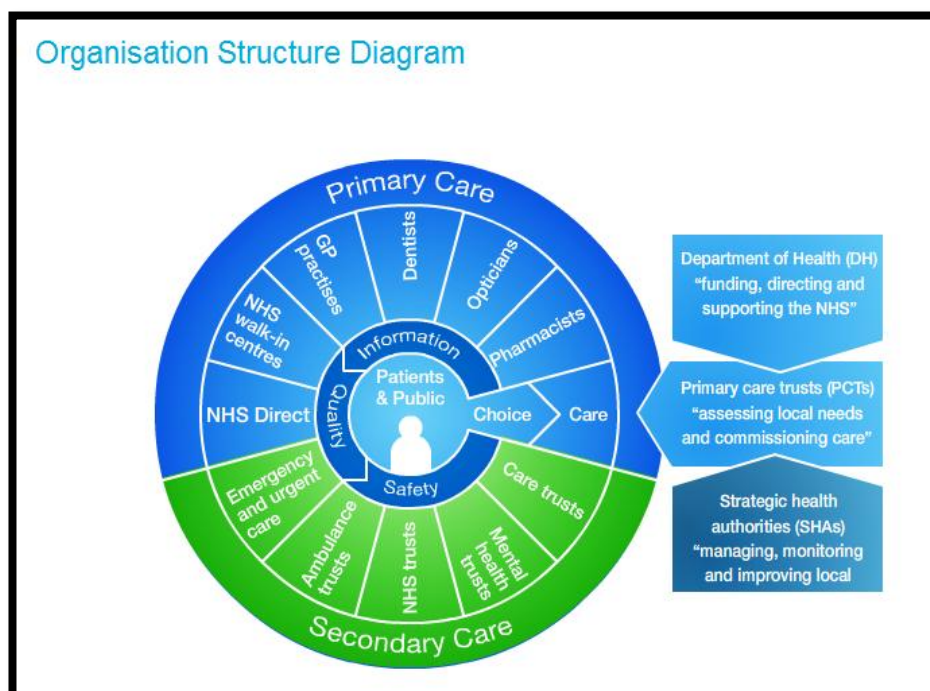
Figure 7.4 and 7.5 illustrates the hierarchy levels extant in the NHS on a macroscopic level, during the data collection for this study.

Figure 7.4: Broad Structure of the National Health Services



(Source: National Health Services Website: <http://www.nhs.uk>)

Figure 7.5: Alternative Perspective of NHS Structure



(Source: <http://www.nhsgatewaytoleadership.co.uk/About-the-NHS/Organisation-structure.aspx>)

The NHS is renowned for the hierarchical models within which it operates. After reviewing websites of various NHS trusts, it is observable that NHS trusts are structured with lines of accountability ranging from the chairman, chief executive officer, directors, senior managers, managers, supervisors and so on. Taking this into account, this research studied staff in managerial positions and their reporting staff from the Primary Care Trusts, the Acute or Care Trusts and the Mental Health Trusts. Hence, two types of participants were approached - Leaders and their Followers. For the purposes of this research, managers were deemed to be in leadership positions and checks were carried out to verify that they had followers reporting to them. Leaders were identified based on the fact that they had at least three or more followers or reporting staff. Members of staff who had less than three subordinates could not be included in the research. This was necessary to maintain the statistical validity of the research findings. Participants belonged to the top, senior, middle management positions as well as supervisory roles although this research essentially sought to adhere to the senior and middle management levels; to

ensure that the leaders participating were involved in the change implementation and management. Furthermore, self-developed ‘change involvement’ questions were employed to ensure that the leaders were acting as agents of change as change agents are mostly associated with TL (Beugré et al, 2006; Eisenbach et al., 1999). This is not a clinical study and patients were not be used. Only managerial staff members and their followers in the NHS were approached for this study.

Suitable participants were located through the help of the Human Resource Departments or Learning and Development Departments within the different trusts of the NHS. Prospective participants were invited to take part in the study through invitation letters or participant information sheets. If they agreed to participate, they completed and signed the consent forms which were provided to demonstrate informed consent. (Participant Information Sheets used are presented in appendices 1 – 4; and Consent Forms used are presented in appendices 5 – 8.).

Participants took part in this study purely for research. Anonymity and confidentiality was ensured. No job selection or promotional opportunities relied on their responses. However, some participants took up the offer to receive feedback on their responses, which if they chose to, they could use for personal development. Therefore, using reliable and valid self-report measures were deemed appropriate for this research.

7.5.2 SAMPLING DESIGN

Sampling is the process via which a subset or smaller parts of the larger population is used to arrive at conclusions regarding the whole population (Zikmund, 2000). This includes two types, probability sampling and non-probability sampling. Table 7.5 summarises different sampling techniques.

Table 7.5: Probability and Non-Probability Sampling Techniques

TYPE OF SAMPLING	PRINCIPLE AND NATURE OF SAMPLING	
Probability Sampling:	Population elements/cases have a known chance of being selected as the sample subject. It demonstrates higher representativeness of the target population. More associated with quantitative methods.	
<u>Simple Random or Unrestricted Probability Sampling</u>	Every element has a known and equal possibility or probability of being sampled. Supposed to assist value freedom.	
<u>Systematic sampling</u>	Selection of an appropriate sampling fraction thereafter every <i>n</i> th element in the population list is chosen. a risk exists of systematic bias creeping into the sample	
<u>Stratified sampling</u>	Very representative, may be proportionate or disproportionate. Builds upon simple random sampling and systematic sampling.	
Non-probability Sampling:	The chance of any member of the population being selected is unknown. Personal judgement and convenience influences non-probability sampling. More associated with qualitative methods.	
<u>Convenience</u>	Get cases most conveniently available.	
<u>Snowball</u>	Get cases using referrals from one or few cases, and then referrals from those cases, and so forth.	
<u>Purposive</u>	Get all possible cases that fit particular criteria, using various methods. These are of two kinds:	
	<u>Judgement</u>	Get cases that the researcher selects based on appropriate characteristics.
	<u>Quota</u>	Get a preset number of cases in each of several predetermined categories that will reflect the diversity of the population, using haphazard methods.
<u>Haphazard</u>	Get any cases in any manner convenient.	
<u>Deviant</u>	Get cases that substantially differ from the dominant pattern (a special type of purposive sample).	
<u>Sequential</u>	Get cases until there is no additional information or new characteristics (often used with other sampling methods).	
<u>Theoretical</u>	Get cases that will help reveal features that are theoretically important about a particular setting/topic.	
<u>Cluster</u>	The primary sampling unit is a large cluster of elements as opposed to individual elements. This is considered economically efficient.	
<u>Area</u>	Similar to cluster sampling. Here, a geographic area is the primary sampling unit.	
<i>(Compiled from Neuman, 2003, Brewerton & Millward, 2001; Sekaran, 2000; Zikmund, 2000; Punch, 1998)</i>		

This research aligns with positivist processes, however, in order to satisfy the criteria of the target population, non-probability sampling has been used (Sekaran, 2000). Therefore, purposive judgement sampling was employed in this research. The NHS

which is embroiled in a change agenda and in change processes has been chosen for this research. Furthermore, the NHS exhibits formal, bureaucratic, hierarchical structures with clear lines of responsibility and accountability. The above controls clearly satisfy the data collection prerequisites and enhance the 'judgement' embedded in this sampling choice. Further controls were also in place to ensure that data is collected from healthcare leaders involved in change management and their followers or reporting staff. The help of the HRM and Learning and Development departments were solicited in identifying and recruiting participants. Therefore, the extent and significance of 'judgement' was enhanced in this sample satisfying the adoption of a purposive judgement sampling technique in this study.

The first stage focussed on collecting data from the leaders. Once leaders took part in the study, they were requested to nominate between 3 and 5 reporting staff who might be approached to complete EI and FRL ratings on these leaders. Leaders were also asked to provide written consent for their reporting staff to provide ratings on them (leaders). For the second phase of the data-collection, the followers were contacted along with the survey and along with information that their named leader had nominated them to take part in the study. This effectively led to purposive judgement sampling with respect to both leaders and their followers.

Data has been collected in two stages - from leaders in the NHS and then their reporting staff. Stage 1 target population was identified as NHS staff in managerial positions (satisfying a leadership role and having clear lines of responsibility) involved in change management and implementation. Stage 2, target population was identified as the direct reports of stage 1 participants. This was achieved through purposive judgment sampling, facilitating the satisfaction of these data prerequisites.

Furthermore, 6 in-depth face-to-face interviews were carried out (the interpretations of which have been presented in chapter 2). These 6 participants were selected based on the principles of purposive judgement and snowball sampling whereby their position in the trust contributed to the element of 'judgement' in the sample and the leaders who were interviewed were asked to suggest or refer other suitable leaders who could help the researcher capture a picture of the transformations in the trusts thereby leading to snowball sampling.

In terms of the exact NHS trusts that were approached and ultimately took part in this study was determined to a large extent by their geographical location and the convenience for the researcher to reach these sites on a frequent basis. Furthermore, the willingness and convenience of the NHS trusts to take part in the study and assist the researcher in distributing the survey questionnaires also played a role in the inclusion of the sites. The following section provides more details about the sites.

7.5.3 RESEARCH SITES

As indicated in section 2.2, the research sites that took part in this study included Acute Care Trusts, Primary Care Trusts and Mental Health Trusts. During the data collection of this study, the Acute Care Trusts were attempting to achieve Foundation Trust status (please see section 2.2 for a description of these types of trusts). In total seven trusts participated in the study with 2 Acute Care Trusts, 4 Primary Care Trusts and 1 Mental Health Trust in the North of England. In the interests of confidentiality and anonymity, the exact identity of these trusts cannot be revealed.

7.5.4 SAMPLE SIZE

The statistical theory underpinning data analysis determines the sample size (Zikmund, 2000; Neuman, 2003) of a survey. The major factors determining sample size are the nature of statistical analysis planned, the extent of variability expected within the samples and results, the traditional convention regarding the appropriate sample size in the particular research area (Clegg, 1990).

One way to calculate the requisite sample size for surveys involves statistical equations (Neuman, 2003). However, the necessary information are not always available and the method used more often is, the ‘rule of thumb’ based on past experiences, which is known to yield sample sizes close to the statistical sample size. A relevant principle is requiring a bigger sampling ratio when the population size is small. Nevertheless for a large population, a smaller sampling ratio is permissible as

for small samples a small increase in size provides a greater increase in accuracy than for bigger samples (Neuman, 2003). Roscoe (1975) suggests that, sample sizes larger than 30 and less than 500 units are generally appropriate. For multivariate analysis, the sample size should be ten times larger than the number of variables. Generally larger sample sizes are advised for better representation (Neuman, 2003). However Fowler (1984) emphasises, “A sample of 150 people will describe a population of 15,000 or 15 million with virtually the same degree of accuracy, assuming all other aspects of the sample design and sampling procedures were the same” (Fowler, 2002: 17). In this research, the rule of thumb method has been adopted. The aim was to obtain 150 self-ratings of the leaders at stage 1 of the data collection and another 150 follower-ratings of leaders from followers to ensure data collection of at least 150 leader-follower dyads. Nonetheless, in both stages, data units collected satisfactorily outnumbered the above aim at 309 and 200 usable responses at stages 1 and 2 respectively. Response numbers and response rates have been discussed in detail in the results chapter (chapter 8).

In addition to the main survey, a few face to face interviews were conducted with senior managers from the different trusts to acquire primary data about the nature of changes the NHS was grappling with at the time of the data collection of this study. The number of interviews conducted was guided by the principle of data saturation (Glaser & Strauss, 1967; Guest et al., 2006). To this effect, 6 in-depth interviews revealed common themes on transformations the NHS was undergoing.

7.6 SURVEY DESIGN

Both phases were completed through surveys. Demographic information regarding age, gender, education, post, number of reporting staff, income was solicited in addition to study questions. In phase 1, leaders completed self-reports of the Swinburne University Emotional Intelligence Test (Palmer & Stough, 2001) and the Emotional Intelligence Questionnaire (Higgs & Dulewicz, 2002) to measure EI; and the Multifactor Leadership Questionnaire (Avolio & Bass, 2004) measuring the FRL model (TL, transactional leadership and laissez-faire leadership). The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) has been employed to

account for possible social desirability bias. Self developed research items were employed to obtain information regarding the extent and nature of the respondents' Involvement with Changes in the NHS.

Leaders, who consented to participate in phase 2, identified 3 to 5 reporting staff for participation. In phase 2, reporting staff completed 360 degree versions of the SUEIT, EIQ and rater-forms of the MLQ. Followers also completed a rater version of the self-developed Change Involvement questions. In phase 2, followers completed all the psychometric instruments by focussing on their named leader. Some demographic questions were included to acquire a picture of the followers' age, gender, position and income.

Clear instructions and information was provided to assist in answering the questions. All questions gauged opinions and perceptions and there was no right or wrong answer. Furthermore, six qualitative interviews have been conducted with leaders to obtain contextual data regarding the nature of the changes, impacting upon the lives of NHS staff. The pilot study conducted at the University of Hull indicated that, it took approximately 30 minutes to complete the survey. The following section discusses these research instruments and associated issues of reliability, validity and generalisability.

7.7 REVIEW OF RESEARCH INSTRUMENTS

Reliability indicates that the same results may be obtainable when the same research is repeated by different researchers at different times (Drucker-Godard, Ehlinger & Grenier, 2001: 210). In quantitative research employing psychometric instruments; there are two kinds of reliability. 'Test-retest reliability' occurs when the scores, obtained from a set of participants taking the same test on two different occasions, demonstrates high positive correlation. 'Internal consistency reliability' is satisfied when all parts and all items of the instrument are measuring one and the same variable. Statistically this is the mean of the inter-correlations calculated among all the individual items in the test. This internal consistency is generally indicated by Cronbach's alpha (Kline, 1993).

Validity of a psychological instrument entails the assurance that the test measures what it purports or claims to measure (Kline, 1993: 15) rendering the data to meaningful inferences (Creswell, 2003: 157). Validity can assume different forms (Creswell, 2003: 157). Content validity ensures that the items of the test or the contents of the test are relevant to and cover all the aspects of what it claims to measure. Concurrent validity satisfies that a particular test correlates highly with another test of the same variable. Predictive validity entails the scores of the test predicting some criterion or other. Finally construct validity establishes that the instrument can measure the hypothetical concept or construct, and exhibit that the results are in agreement with the definition and nature of the construct (Kline, 1993; Creswell, 2003). In other words, construct validity ascertains that the variables represent what they claim to represent (Lehaney & Clarke, 1995: 16). The two types of construct validity are convergent validity and discriminant validity (Kline, 1993). One of the techniques adopted to ensure this is by checking that the instrument correlates with other instruments, to the concept of which; the construct originally being measured is conceptually associated (convergent validity). Further, the measure should not correlate with or should correlate less with measures of constructs to which the construct is conceptually not associated (discriminant validity).

7.7.1 INSTRUMENT MEASURING LEADERSHIP AND OUTCOMES OF LEADERSHIP

7.7.1.1 THE MULTIFACTOR LEADERSHIP QUESTIONNAIRE (MLQ)

The Multifactor Leadership Questionnaire created by Bernard Bass (1985) was used to measure TL, transactional leadership, laissez faire leadership and outcomes of leadership for the purposes of this thesis. This instrument aimed to identify behaviours underpinning transformational and transactional leadership, where Bass (1985) is reported to have perceived transformational and transactional leadership as complementary constructs (Lowe & Kroeck, 1996). However, the instrument also

measures a “full range of leadership abilities” (Avolio & Bass, 2004) including laissez-faire leadership. The Multifactor Leadership Questionnaire (MLQ) has had widespread use in leadership research especially in the most recent version of the Multifactor Leadership Questionnaire (Form 5X). This is a 45-item questionnaire (derived from the original 73-item questionnaire), which requires participants to respond on a Likert scale of 0 to 4 where 0 indicates not at all and 4 means frequently, if not always.

The MLQ is now recognised as an appropriate and widely applied instrument to measure TL (Leban, 2003). Studies have revealed, it is a reliable instrument to measure transformational, transactional and laissez-faire leadership behaviour (Leban, 2003). Hartog, Muijen and Koopman (1997) addressed the internal consistency of the MLQ via calculating Cronbach’s α and also the inter-item correlations. TL scales demonstrated a high internal consistency. Internal consistency was seen to increase after combining an item of the scale with laissez faire or absent leadership. Hinkin and Tracey (1999) also report the demonstration of adequate internal consistency estimates in their analysis of the MLQ. Avolio, Bass and Jung (1999) report the reliability coefficients for each of the leadership factor scales in the MLQ 5X to range from 0.74 to 0.94, which is sufficiently high and acceptable. They found high positive correlations among all the TL scales in the MLQ (Avolio, Bass and Jung, 1999). Some authors express some reservations regarding the discriminant validity of this instrument (Carless, 1998). However, general construct validity was demonstrated by the MLQ instrument, when Goodwin et al (2001) analysed the TL with implicit psychological contract included and transactional leadership construct with explicit psychological construct included (Goodwin et al, 2001). Bycio et al (1995) and Tepper and Percy (1994) also indicate high correlations among the MLQ items and dimensions. Predictive validity of the MLQ has been successfully demonstrated in a number of studies. Significant relationships have been discovered between TL and subordinate satisfaction relating to leaders and their effectiveness (Bass, 1985, Hater & Bass, 1998; Seltzer & Bass, 1990).

7.7.2 INSTRUMENTS MEASURING EMOTIONAL INTELLIGENCE

As discussed earlier, the literature on EI may be viewed to represent two factions or streams. One stream represents an ability-based model portraying the construct of EI as distinct from aspects of personality; the other faction perceives EI as a mixed-model encompassing both ability as well as personality aspects. The instruments that this research employed in order to study EI have both been created independently of each other with the purpose of representing the core components of EI. However, this thesis perceives one of them, the SUEIT, as displaying a greater tendency to align with the ability-based stream of EI and the other one, the EIQ as aligning with the mixed-model faction of EI. These two instruments are examined below, followed by a comparative review of the two instruments.

7.7.2.1 SWINBURNE UNIVERSITY EMOTIONAL INTELLIGENCE TEST BY PALMER AND STOUGH

The SUEIT was developed in an attempt to identify the definitive dimensions of EI through a mega-factor analysis of the then existing EI instruments. The resultant model aligns strongly with the ability stream of EI. This is a 64-item self-report instrument designed on a Likert Scale of 1 to 5 where 1 stands for never and 5 stands for always. As indicated in the literature review on EI, the key factors that were interpreted to constitute EI are (a) Emotional Recognition and Expression (in oneself), (b) Understanding Emotions (c) Emotions Direct Cognition (d) Emotional Management and (e) Emotional Control.

Two sets of normative data are available for the SUEIT, one is of the general population and the other is of people in executive positions. Adequate internal consistency reliability levels have been established for both the general population and the executive population at alpha being equal to 0.88 and 0.91 respectively. Internal consistency levels of the individual subscales are also high for both norms as shown in tables 7.6 and 7.7 below:

Table 7.6: Means, Standard Deviations, and Reliability Coefficients of the SUEIT (General Norms)

SCALE	# ITEMS	MEAN	STANDARD DEVIATION	α
Total EI	64	221.75	17.25	.88
Emotional Recognition & Expression	11	38.51	4.90	.73
Understanding of Emotions External	20	76.17	6.64	.83
Emotions Direct Cognition	12	39.05	5.00	.63
Emotional Management	12	41.35	4.72	.72
Emotional Control	9	31.66	3.94	.72

(Palmer & Stough, 2001)

As table 7.6 indicates, “full-scale reliability is high as are most sub-scales with the exception of the Emotions Direct Cognition sub-scale” (Palmer & Stough, 2002).

Table 7.7: Means, Standard Deviations and Reliability Coefficients for the SUEIT (Executive Norms)

SCALE	# ITEMS	MEAN	STANDARD DEVIATION	α
Total EI	64	234.6	20.05	.91
Emotional Recognition & Expression	11	39.72	4.8	.77
Understanding of Emotions External	20	78.8	7.51	.89
Emotions Direct Cognition	12	38.34	5.50	.70
Emotional Management	12	44.0	5.19	.83
Emotional Control	9	33.75	4.01	.77

(Palmer & Stough, 2001)

T-tests conducted confirmed that the means of the two norm groups are significantly different with the executive group displaying significantly higher EI levels than the general population.

A one month test-retest reliability study displayed sufficiently high correlations as presented below, all correlations being significant at the $p < 0.001$ level (Table 7.8).

Table 7.8: SUEIT Test-Retest Stability Coefficients over a One-Month Period

SUEIT	ONE-MONTH
Total Score	.945
Emotional Recognition and Expression	.823
Understanding Emotions External	.920
Emotions Direct Cognition	.863
Emotional Management	.825
Emotional Control	.865

(Palmer & Stough, 2001)

The SUEIT has been established as a valid instrument. Adequate inter-scale correlations have been displayed, with all the correlations being positive and none of the correlations are high enough to suggest that they are the same facet. The level of the correlations clearly support the postulation that the subscales depict distinct yet related factors and also that the SUEIT is measuring a unidimensional construct of EI. Discriminant validity of the SUEIT has also been obtained in relation to three personality dimensions of the Big Five, Neuroticism, Extraversion and Openness respectively as measured by the - Five Factor Inventory (NEO FFI). The correlations reported, have been claimed to be some of the lowest obtained so far, ranging from $r = 0.09$ to $r = -0.47$. It clearly has distinct validity from Neuroticism, Extraversion and Openness which are facets of normal personality (Palmer & Stough, tmv2, 2002). Thus the SUEIT has demonstrated itself as a reliable and valid ability-based measure of EI in the workplace.

7.7.2.2 EMOTIONAL INTELLIGENCE QUESTIONNAIRE BY DULEWICZ AND HIGGS (EIQ)

The Emotional Intelligence Questionnaire (EIQ) developed by Dulewicz and Higgs (2000a) is a self-report 69 item questionnaire where the respondents indicate how relevant each statement is to him/her on a Likert scale of one to five where one indicates never and five indicates always. The questionnaire comprises of seven subscales: (a) Self Awareness (b) Emotional Resilience (c) Motivation (d)

Interpersonal Sensitivity (e) Influence (f) Intuitiveness and (g) Conscientiousness and Integrity.

Reliability coefficients were generally above 0.5 (Dulewicz & Higgs, 2000: 364). Considering alpha as well as split half reliabilities, “all scales appear to be reliable” (Dulewicz & Higgs, 1999: 13). It also demonstrates a high level of internal consistency reliability.

Significantly statistical relationships were demonstrated on the total EQ scale, and one component factor, influence, thereby predicting advancement in organisations and satisfying predictive validity. Dulewicz and Higgs (2000) say, “Such long-term validity evidence is very rare and provides strong support for the validity of these scales” (Dulewicz & Higgs, 2000: 364).

However, contradictory to the results on competencies, the personality questionnaires’ subsets did not demonstrate similar positive results. “Although the two sets are highly inter-correlated, and so are probably measuring similar constructs, they do not predict organisational “success”, at least for our sample of general managers” (Dulewicz & Higgs, 2000: 365).

Dulewicz and Higgs (1999) compared the results of the United Kingdom sample with the total sample and concluded that the results were similar. An overall highly significant statistical correlation has been computed between the above seven elements except Interpersonal Sensitivity and Decisiveness. This implies that all the items “measure similar, related constructs” (Higgs & Dulewicz, 1999: 11).

At the item level, ‘part whole’ correlations revealed that except for responses to two items, all the other item and element total correlations were significant indicating that “they are all relevant to the sub-scales of which they form a part” (Higgs & Dulewicz, 1999: 14).

Respondent feedback implied that the questionnaire did appear to measure what it purported to measure, thereby satisfying face validity. The authors argue that the questionnaire clearly links to the Personal Competences Survey which in turn is

linked to EI, and also that the instrument has aimed to cater to all aspects of the EI literature, thereby satisfying content validity.

The results of the calculations between the Emotional Intelligence Questionnaire and 16 Personality Factor scale established and evinced that the EIQ measures a construct which “equates to well-established measures of personality characteristics” (Dulewicz & Higgs, 1999: 16) thus supporting construct validity. The calculations of the questionnaire with Belbin Team Roles showed a trend of supporting the construct validity of approximately all components except two. The exploration of the construct validity revealed positive significant correlation between ‘Thinking’ and ‘Feeling’ types (of MBTI) with ‘Self Awareness’ (of EI), no significant correlation was revealed between ‘Extraversion’ and any EI component and overall²¹EI scales. The MBTI scalepole of ‘Feeling’ did not show any high correlation with the EQ scales. However, the authors infer, “Overall, the results ... taken together, present wide-ranging support for the construct validity of the EI questionnaire” (Dulewicz & Higgs, 1999: 18). The authors also established the predictive validity of the instrument. Thereby an overall strong validity of the EI Questionnaire has been argued out.

Reviewing this instrument has demonstrated that the EIQ has sufficient overall reliability and validity.

7.7.3 COMPARISON OF SUEIT & EIQ AND IMPORTANCE IN THIS STUDY

This section compares and evaluates Palmer and Stough’s (2003) ‘Swinburne University Emotional Intelligence Test’ and Higgs and Dulewicz’s (2002) ‘Emotional Intelligence Questionnaire’. Justifications for the simultaneous use of these instruments in this study and the important contribution this is expected make

²¹ “although self-awareness, influence and the composite score did correlate at around the 6 per cent level.” (Dulewicz & Higgs, 1999: 18)

to the field of knowledge on change leadership and EI within the NHS have been highlighted.

While developing the SUEIT Palmer and Stough (2003) were keen to create an instrument that examined workplace EI by assessing the core components of the EI construct, in their words, "...the most definitive or common elements of the construct" (Palmer, Gardner & Stough; 2003). Their studies empirically identified the common elements of EI through a large factor analytic study on the then existing measures of EI. Palmer, Gardner and Stough (2003) highlight the fact that prior to the SUEIT, most measures were either too narrowly focussed like Salovey et al.'s (1995) Trait Meta Mood Scale or were too wide in scope with 15 individual variables as in Bar-On's (1997) Emotional Quotient Inventory impeding the practicalities of individual and group feedback provision (Palmer, Gardner & Stough; 2003). Thus, through their study they have identified and singled out the most definitive and core dimensions of EI, central to the concept of the construct. Having conducted the factor analytic study, they developed a large pool of 12 items representing the five individual factors. After a general sample ($n = 127$) scored this version of the test, the researchers attempted to reduce the number of items while still maintaining the internal consistency. This resulted in an 86-item instrument with internal consistency equal to that of the 124-item test. Then a second sample ($n = 563$) of the general population scored the instrument. The results yielded the five factor model as most representative of the data and the items that did not load significantly on their relevant dimension/s were deleted. Thus leading to 64-items with good internal consistency reliability (0.88 – 0.91). The workplace SUEIT consists of both self-report and 360 degree rating versions. The SUEIT has demonstrated discriminant validity from personality factors of Neuroticism, Extraversion and Openness. By virtue of this discriminant validity the SUEIT detaches itself from being included within the mixed-model perspective of EI and manifests greater propensities of nurturing and aligning itself with the ability based perspective of EI.

Thus, through their factor analytic study Palmer and Stough (2003) identified the primary elements of EI as represented by the extant models of EI as mentioned above. Similarly Higgs & Dulewicz's (2002) study also endeavoured to identify the core EI components. However, their methodology was to conduct a comprehensive

survey of the existing literature and thereby extract the most common aspects of EI in the different models then extant. Within their review, the major EI models that they encompassed include those proposed and propagated by Goleman (1995, 1997b), Gardner (1993), Salovey and Mayer (1990), Gardner and Hatch (1989), Steiner (1997) and Cooper and Sawaf (1997). Higgs and Dulewicz (2002) present their model of EI as a mixed-model which sees EI as comprised of both ability and personality factors. They liken it to Bar-On's (1997) mixed-model of EI as measured by the Bar-On EQ-i. This Higgs and Dulewicz (2002) model is measured by the Emotional Intelligence Questionnaire (EIQ).

Both have been designed to specifically cater to the workplace environment and examine workplace EI. Palmer and Stough (2001) describe the SUEIT as measuring individuals' perceptions about the manner in which they think, feel and act while at work with respect to their emotions and emotional information. The Higgs and Dulewicz (2002) measure of EI; the EIQ is also designed specifically for managers or aspiring managers and to measure the EI of people at work. In comparison, other established EI instruments have not been designed to specifically take into account the work environment. The Bar-On EQ-i which is a well normed instrument of the mixed-model faction of EI was originally created for clinical use but has demonstrated wider applicability and has been used in different settings. Similarly, the MSCEIT developed by Mayer, Salovey and Caruso (1999) who (Salovey and Mayer, 1990) originally coined the term and introduced the concept of EI, was also developed originally for employment in clinical settings. This thesis aims to study the EI of subjects while working within the healthcare settings. Thus, the aim is to study individuals' EI and TL while at work. Therefore, the workplace specific instruments of the EIQ and the SUEIT are considered appropriate for adoption in this study.

SUEIT has been extensively used with the Australian population. It has been rarely used with the English population. Both pairs of researchers appear to have conducted their studies independently of each other in two different countries. Neither instrument appears to have been dedicatedly used within the NHS population in the UK. They both claim to represent the common factor of the EI literature. Also no study previously has employed the SUEIT and EIQ simultaneously. Employing both

these EI instruments, will give rise to the opportunity to investigate which model has stronger embedded potential to predict change leadership²² within the dynamic NHS environment. This will be beneficial for employee appraisals, selection, and training and development within the NHS.

7.7.4 INSTRUMENT CONTROLLING FOR SOCIAL DESIRABILITY BIAS

Social Desirability is definable as the propensity or disposition of individuals to portray themselves in a favourable light and thus knowingly or unknowingly provide responses to self-report questionnaires in a manner that has the potential to represent their behaviour and attitudes inaccurately. Crowne and Marlowe (1960) perceive social desirability as the need of subjects “to obtain approval by responding in a culturally appropriate and acceptable manner” (Crowne & Marlowe, 1960: 353).

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) is predominantly employed to measure and control for social desirability bias (Barger, 2002). This is a 33-item self report questionnaire. The items are presented in true-false response format (Loo & Thorpe, 2000) and work on the premise that normal, average individuals will not always behave or conduct themselves in a socially desirable style. Hence an individual with a higher need to be socially approved and desired will tend to display higher socially desirable scores than average (Leite & Beretvas, 2005). This thesis will follow the precedence of employing the Crowne and Marlowe (1960) Social Desirability Scale to control for possible social desirability bias of respondents. Reliability levels were accounted as 0.88 for internal consistency and 0.89 for test-retest reliability (Crowne & Marlowe, 1960).

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²² As illustrated by the FRL model comprising of TL, transactional leadership and laissez-faire leadership.

7.7.5 CHANGE INVOLVEMENT QUESTIONS

The change involvement questions were self-developed by the researcher and hence validity and reliability statistics were not available before this study was conducted. Reliability tests have been conducted on the instruments with respect to the data collected and this has been presented in the results (chapter 8).

7.8 GENERALISABILITY

Generalisability or external validity (Punch, 1998) is the degree to which the results of a particular research can be successfully applied to circumstances not investigated in the study.

Empirically, generalisability is the degree or level of confidence within which the results from the sample will be true for the whole population. This is strongly relevant to this study. Generalisability or ‘ecological validity’ (Punch, 1998) is also enforceable via, “a *fundamental understanding of the structure, process and driving forces* rather than...establishment of correlation or cause-effect relationships” (Normann, 1970: 53 as quoted in Gummesson, 2000: 89). Therefore, the nature of the organisations in which this empirical research on TL and EI will be conducted, may be taken into account and the results obtained from this study can be generalisable to other similar healthcare organisations.

7.9 PILOT STUDY

Prior to administering the survey to the leaders and followers in the NHS, two sets of pilot tests were conducted. The pilot tests were performed with individuals in full-time employment. Some of these participants were working in managerial/leadership roles and some were not. In the first study, right after the participants completed the questionnaire, a focus interview was held with the participants, whereby their feedback on the structure, layout and content of the questionnaire was sought.

This revealed an extremely strong concern for anonymity. Most participants appeared to have reservations about being asked their names. They also suggested that if survey questionnaires had code numbers at the top or bottom end they did not believe that they could be identified, even if their names were not asked. In the light of this, only leaders were asked for their names as it was necessary to indicate the leaders' names to the followers while seeking follower-ratings of their leaders. However, it was made very clear that the leaders' name was being asked only for administration purposes and would not be revealed in any form of research dissemination. Most of the NHS leaders who took part in the study provided their names. Furthermore, none of the followers were asked to provide their names on the survey questionnaires. The questionnaires which were set to the followers were sent with the names of their leader printed on top of the questionnaire, so the followers knew which leader they were focussing on while completing the questionnaire.

The pilot study also painted a picture of strong antagonism towards the use of the word 'subordinate'. In the academic literature on leadership, the term subordinate is used frequently. However, the term 'subordinate' is a value-laden word and can impart an impression of inferiority. While the term 'follower' may be deemed as less value-laden and is also the term in general use within the academic literature; the researcher sought a more value-neutral term and used the term 'reporting-staff' in all communications with all participants instead of the terms subordinate or follower.

Some reticence was expressed in responding to questions asking for the age and income details of participants. Hence, in the main survey, the exact figures were not sought, instead possible categories of the answers were provided and respondents were asked to tick the relevant box. Moreover, the instructions for a couple of questions needed clarification and this was captured in the pilot study and amended for the main research survey.

The length of the survey was raised as an issue, however not much could be done about this as the psychometric instruments being employed in the study were standardised copyright protected psychometric instruments with established reliability and validity.

After addressing the above issues a second pilot study was conducted with another small group of participants with similar characteristics. This time, the feedback was extremely positive and no further alterations were deemed necessary.

7.10 ETHICAL ISSUES AND ETHICAL APPROVAL PROCESS

Consideration of ethical issues in a research project helps ensure that the well-being and welfare of the participants are not compromised in any way due to the process or the outcome of the research study. Stringent ethical procedures were followed in conducting this research. The key ethical concerns associated with this research have been highlighted below along with the controls put in place to address these ethical concerns.

7.10.1 CLARITY OF INFORMATION AND PARTICIPANT'S INFORMED CONSENT

In case of both quantitative surveys and qualitative interviews, prospective participants' consent to participate in the study was solicited by providing them clear information describing the aim of the research and explaining what they would be expected to do, if they participated. This was incorporated into specially created 'Participant Information Sheets' (appendices 1 - 4). Informed consent was obtained from leaders with a view to soliciting the participation of staff reporting to them (their followers) (See Informed Consent Form in appendices 5 - 8). Reporting staff were asked to complete the EI and leadership questionnaires focussing on their respective leaders. The researcher's contact details were made clearly available and participant's had the choice and option to withdraw from the research at anytime, if they wished to do so. Before contacting reporting staff, participants who were identified as leaders for this study were offered the choice of not being rated by their subordinates.

7.10.2 CONFIDENTIALITY

Participant confidentiality has been strictly maintained in this study. All responses were anonymised and kept strictly confidential. No participant has been identified in anyway whatsoever by name or otherwise in any part of the thesis, conference papers or publication. This principle of participant anonymity will be maintained in all subsequent publications. Names were collected for the leaders in stage 1 which was used for administrative purposes only. The names of reporting staff were not collected on their response sheets in the interests of maintaining reporting staff anonymity. All data has been stored securely and locked away at the Hull University Business School computer. Only the researcher (myself) and the PhD supervisor had direct access to the completed questionnaires returned and the transcripts of the face-to-face interviews. After the PhD has been completed, the completed questionnaires returned by participants will also be destroyed. Coded data has been stored at the Hull University Business School computer and is password protected.

7.10.3 FEEDBACK

Participants were offered the opportunity to receive feedback based on the results of the EI questionnaire they complete. The researcher has received research training at the University of Hull and has also attended training in administering psychometric tests and providing feedback on such tests, organised by the British Psychological Society (BPS). Therefore, professional feedback was provided to leaders on their EI along with advice for further EI development tools and techniques. In the interests of confidentiality, individual feedback based on followers' responses was not offered or provided.

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7.10.4 THE NHS ETHICAL APPROVAL PROCESS

To gain access to data sites, this research proposal was reviewed by the central NHS Research Ethics Committee (NHS COREC²³) (this entailed the researcher submitting necessary documents in line with protocol and being interviewed by the committee). This committee provides Ethical Approval for a research to be conducted within the NHS. Once this committee provides approval, Research Governance departments at each individual trust where the research will be conducted has to review the ethical issues associated with the project and provide approval. When both these bodies approve the project, then the researcher can commence their fieldwork. Therefore, this project underwent a two-tier process of NHS research approval. After acquiring the central NHS Research Ethics Committee approval, research governance approval was sought and received from the separate research sites, that is, the 2 acute trusts, 4 primary care trusts and 1 mental health hospital. Documents submitted for NHS COREC and Research Governance approval can be provided on request.

Once the COREC documents were submitted, the PhD researcher and their supervisor were invited for a panel interview by the NHS Ethical Committee. The whole committee was present at the interview and consisted of 17 members around a round table and included committee chair, chief executive officer of a trust, a vicar, doctors, consultants, managers and lay members from the public. At the panel interview the committee sought confirmation of maintenance of confidentiality, anonymity and data security. They also asked how possible revelation of any fraud would be dealt with. To this the panel was assured that if any fraud was revealed then the researcher would deal with this in line with any NHS COREC policy; at the same time, due to the psychometric nature of this study, revelation of fraud was not an anticipated outcome. No information regarding any fraudulent activities came to light in the course of this study. The panel also sought clarification regarding which trusts would be approached for the study. Here the researcher assured the panel that she had had consultative meetings to gauge the potential reaction to conducting this project, and the results had been positive whereby various trusts had agreed to participate in principle, subject to receiving ethical approval.

²³ Committee of Research Ethics Approval

A few weeks after this interview, written approval of the ethical approval was received by the researcher through the post. Thereafter each individual trust was sent the same documents for Trust Research Governance approval. Research governance approval did not require interviews, each trust reviewed the documentation and sent their approval in writing through the post. This often took several weeks even months.

On reflection, preparation of documentation for the NHS COREC and individual Research Governance approvals was a rather intensive and time consuming process. The nature of information required was extremely detailed including a research proposal with specific sections, participant information forms, consent forms for each separate aspect of the data collection (leader surveys, follower surveys, leader face-to-face interviews). Furthermore, information regarding the PhD researcher and PhD supervisor including curriculum vitae were required. COREC and Research Governance forms had to be completed online as well. Once the documentation was submitted and the first COREC review and interview was conducted, the COREC requested some written clarification regarding the type of trusts that would be employed in this study. After this was provided, the COREC approval was received. Provision of each individual approval often took up to several weeks.

Despite the increased demands on time and work, as a result of the NHS ethical approval process; on reflection, this was a worthwhile investment. This helped to refine the research proposal with a clear view of not only the ethical issues but also the logistics of the fieldwork. While preparing the ethics documents, and soliciting trusts to agree in principle to participate in this study, the researcher was able to develop a lot of contacts within the NHS and build up rapport with various individuals in the Research and Development, Human Resource, and Learning and Development departments who proved crucial in distributing and administering the surveys to the different trusts. Once individual trusts provided research governance approval, they issued the researcher with Honorary Contracts. This enabled the researcher to conduct the research on the trust premises. Furthermore, once the ethical approvals had been obtained, the various trusts were extremely co-operative and helpful in helping the researcher distribute the questionnaires and collect them

back. Individuals in the different trusts acted as champions of this research (this has been discussed in detail in section 7.11). All the trusts are keen to receive a summary of the results of this thesis. The following section will paint a picture of the fieldwork, including the support and assistance received from the NHS during data collection.

7.11 FIELDWORK AND DATA COLLECTION

The fieldwork for this study involved conducting surveys in two stages and conducting a number of face-to-face interviews. The assistance of the Human Resource Management, and Learning and Development departments was crucial in managing the logistics of the two sets of surveys.

First, with assistance from the human resources department, people in leadership positions including chief executive officers, managing directors, senior managers, managers and supervisors from different departments were identified by Human Resource staff. It was ensured that the individuals identified as leaders had staff or teams of staff reporting to them. In some trusts, it was the learning and development departments identified these leaders. The researcher prepared sealed packs of the surveys. Each pack for stage 1 of the study contained the survey, a participant information sheet, a consent form to take part in the survey and a separate consent form for the leaders' reporting staff to be approached to take part in this study. A self-addressed and stamped envelope was also included, so that participants could return the completed surveys conveniently. These packs were taken to the HR or Learning and Development departments, where they were labelled and placed in the internal post. Some trusts were able to designate a collection point where completed surveys were deposited in sealed envelopes. For the other trusts, the completed questionnaires were returned directly to the researcher. For stage 2, whereby the surveys were sent to the reporting-staff, rater-versions of the same questionnaires were enclosed along with participant information sheets, consent forms for the followers and self-addressed and stamped envelopes. The system of returning completed questionnaires was the same as for stage 1. In stage 2, the survey packets sent already had the names and addresses printed on the envelopes by the researcher,

as these had been provided to the researcher by the leaders who nominated these followers. Stage 2 involved responding to the questionnaires based on their perceptions of their leader. Demographic data was collected but no questions of a personal or intrusive nature were asked. The surveys were timed and each survey took approximately 30 minutes to complete. In preparing all the above documentation and labelling, tools like access databases and mail merge were created and employed.

Arrangements were made so that all completed questionnaires were returned directly back to the researcher either using the stamped and addressed envelopes they were provided with or by returning them to a collection point in the HR department from where the researcher arranged to collect all the completed surveys.

With regards to the qualitative face-to-face interviews conducted regarding their perceptions of the ongoing changes, participants were provided with participant information sheets and consent forms. Interviewees signed the consent forms and provided permission to have the interviews audio-recorded. It was made clear at the start of every interview, that participants retained the right to withdraw consent to the interview at any time and the interview would be stopped. No interviewee withdrew any consent at any point. These interviews took between one and two hours approximately. While recording the interviews, simultaneously, the researcher made notes. The interview schedule used has been included in appendix 9.

7.12 DATA ANALYSIS METHODS

This section deliberates on the data analysis methods adopted in analysing the data collected. The first sub-section explains the methods used to examine the unstructured open-ended. This is essentially a positivist survey based research and the survey questionnaires were the key focus of this study. Therefore, the remaining sub-sections here will review the major statistical tools and techniques employed to analyse the data, present results and test hypotheses.

7.12.1 QUALITATIVE INTERVIEWS

The data collected from the face to face interviews (presented in chapter 2) was first transcribed from the audio recordings. Then the interviews were read and colour coded in Microsoft Word to identify key and overlapping themes in the various interviews. Although the researcher was aware of software packages like nVivo and Nu*dist, yet a conscious decision was made, not to use these software packages and manually extrapolate themes using Word. Based on these common themes, the data was analysed and has been presented in chapter 2, portraying the perceptions of NHS staff regarding the ongoing transformations in the NHS at the time of administration of the surveys measuring change involvement, EI and FRL.

7.12.2 QUANTITATIVE SURVEY

Once data collection was completed the data was unblinded. This is when quantitative data from the survey was anonymised and entered into a database created in SPSS (Statistical Package for the Social Sciences V 15). The same SPSS version 15 was the main software package employed to analyse the data along with Microsoft Excel.

Data collected through the quantitative questionnaires, have been analysed via a range of statistical tools like bivariate and multivariate analysis involving T-tests, Correlation, Regression, ANOVA and Planned Contrasts. These techniques have been reviewed below along with justifications for particular decisions made in choosing between available alternatives. Data results have mostly been considered statistically significant at the 0.05, 0.01 and 0.001 significance levels.

7.12.2.1 T-TESTS

Independent samples *t* –tests have been employed in this study to test for significant differences in the mean scores of two different groups of respondents (e.g. gender). T-tests were accompanied by effect size calculations.

Effect size refers to the magnitude of an effect that has been observed, where an effect could be experimental intervention or the strength of association between variables). It provides an idea of the importance of the effect or in this case, strength of relation (Field, 2005). The two most popular methods of computing this are known as ‘Cohen’s d ’²⁴ and ‘eta-squared’ (Gravetter & Wallnau, 2004; Pallant, 2007). Following the APA²⁵ result reporting guidelines illustrated in Gravetter & Wallnau (2004); Cohen’s d has been computed for t -tests and eta-squared has been computed for ANOVA tests. In both cases, Cohen’s guidelines (appendix 10) have been employed to interpret the effect size value (Cohen, 1992 as presented by Thalheimer & Cook, 2002).

Paired samples t -tests were utilised to examine test-retest reliability of the psychometric instruments. This type of test is used when the same group of individuals take two different tests or the same test at two different times (Salkind, 2004). A paired samples t -test then helps to determine if there is any significant difference in the mean scores of the two different tests taken.

7.12.2.2 ANOVA TESTS

One-way ANOVA tests were conducted on a number of constructs being investigated in this thesis to ascertain if there were any significant mean differences in the constructs when the independent variable had multiple categories i.e. the post level or position of the participants in the organisation.

The ANOVA F -ratio indicates that among all the group-sets there is at least one mean-difference which is significant. However, the ANOVA results do not indicate where the significant difference lies. If the ANOVA test indicates a significant difference in any of the mean scores; then a *post hoc* test or *posttest* is conducted to establish which mean scores are displaying significant differences. (Pallant, 2007; Salkind, 2008). This consists of pairwise comparisons that facilitate comparing the

Cohen’s d = mean difference/ pooled standard deviation [Cohen, 1992; Thalheimer & Cook, 2002]

²⁵ APA = American Psychological Association

various group combinations possible (Field, 2005). A variety of post hoc tests exist and it is important that an appropriate post hoc test is chosen. The justification of choice of post hoc test for analysing the mean differences based on the position of respondents in the organisation has been discussed below.

7.12.2.2.1 JUSTIFICATION OF CHOICE OF POST-HOC TEST

In choosing the appropriate post hoc test, Tukey's Honestly Significant Difference (Tukey's HSD) test had to be discounted as this test can only be employed if the sample size for all the groups is the same. The sample size for each of the groups being studied here is different. Therefore, Tukey's HSD post hoc could not be employed here (Gravetter & Wallnau, 2004).

As the treatment group sizes vary i.e. the sample does not consist of an equal number of directors, senior managers, managers and so on, therefore the post-hoc test had to be selected carefully. Bonferroni, Scheffé and Tukey's tests require equal group sizes to produce correct results (Field, 2005). *Hochberg's GT2* and *Gabriel's* pairwise test can be employed to identify pairwise mean differences when the group treatment sizes are different. Gabriel's test can be too liberal if sample sizes vary markedly. Field (2005) advises using Hochberg's GT2 test if the group sizes are very different and if population variances are equal. If population variances are unequal and the sample sizes are unequal the Games-Howell procedure is recommended (Field, 2005). The Games-Howell procedure is considered most powerful, but liberal for small group sizes (Field, 2005). Based on the above arguments, Hochberg's GT2 post hoc test has been employed to ascertain significant mean differences between treatment groups with equal variances and the Games-Howell procedure was employed for groups with unequal variances.

If the assumption of homogeneity of variance is violated, then the F – ratio as calculated by the Brown & Forsythe test or the Welch test is considered more appropriate. These two tests are termed as robust tests of equality of means. Both these tests have been found to control well for Type I errors. However, the Welch F has proven to be more robust with regard to power and detecting an effect when it

truly exists, except when extreme mean scores with a large variance exist (Field, 2005). In cases, where homogeneity of variance has been violated, the *F*-ratio produced by the Welch robust test of equality of means has been employed in this thesis based on Field's (2005) review. As the treatment sample sizes were unequal, *Hochberg's GT2*, *Gabriel's* or *Games-Howell's* pairwise tests were appropriate for use here. In this thesis, when equality of variance was not violated *Hochberg's GT2* was used and if equality of variance was violated, Games-Howell's post-hoc test was employed (Field, 2005).

7.12.3 CORRELATION, PARTIAL CORRELATIONS AND REGRESSION

Pearson's correlation *r* has been employed to test the associations between EI and leadership styles. For missing values (for correlation and regression), cases have been excluded following the 'pairwise' system, which means that if a value was missing for either of the two variables for a particular respondent, then that respondent's answers would be excluded from the calculations only for correlation calculations involving the missing variable as opposed to excluding the respondent from all analyses if even a single item of information is unavailable, better known as 'listwise' system (Pallant, 2007).

Strengths of correlation have been interpreted following Cohen's (1988: 79 - 81) guidelines, as presented in Pallant (2007: 132) (Table 7.9):

Table 7.9: Interpretation of Strength of Correlation Values

STRENGTH OF CORRELATION	CORRESPONDING VALUE OF CORRELATION
Small	$r = 0.1$ to 0.29
Medium	$r = 0.3$ to 0.49
Large	$r = 0.5$ to 1

Furthermore, the American Psychological Association's (APA) guidelines have been borne in mind to interpret the correlations. These suggest that while examining complex behavioral constructs, correlations ranging from $r = 0.10$ to 0.20 are

satisfactory and ranging from $r = 0.25$ to 0.35 are considered highly favourable (Meyer et al., 2001).

Partial correlation has been used to check whether social desirability bias has an effect on the nature of correlation between EI and leadership styles. Partial correlations help to control for the influence of a particular construct while the linkage between two other constructs is being tested. This is known as the non-zero-order correlation; while a simple bivariate correlation between two constructs without controlling for the effects of any other variable is known as zero-order correlation (Pallant, 2007).

Hierarchical multiple regression was deemed the appropriate test to investigate a predictive association between EI and TL. This was chosen over standard multiple regression. Standard multiple regression is most useful if there exists a set of independent variables and the aim is to discern the amount of variance in the dependent variable is predicted by all the independent variables together as a group. However, this study focussed on deciphering the amount of variance in TL that is predicted by the different EI models. Regression analysis was also employed to ascertain the amount of incremental predictive validity of each EI model over the other in terms of predicting TL. These analyses were informed by theoretical postulations, therefore, hierarchical multiple regression was deemed suitable for this study (Pallant, 2007). This allows different independent variables to be entered into the calculation in separate blocks. This regression analysis was used to control for the effects of gender and social desirability bias.

A hierarchical regression analysis conducted in SPSS yields three key values: r square, r square change and standard coefficient Beta. R square values indicate the amount of variance in the dependent variable is explained by all the independent variables entered as a whole (this includes variables included in all the blocks). R square change indicates the variance determined in the dependent variable, only by the additional independent variables entered (over and above the previous ones) in the corresponding block or at each individual stage in the hierarchical regression. When more than one independent variable in a particular block of variables yields

statistically significant results, the beta value indicates which variable has a stronger influence on the dependent variable (Pallant, 2007).

7.12.4 PLANNED COMPARISONS OR PLANNED CONTRASTS

Planned contrasts have been employed in analysing the second phase of this study, where differences between different categories had been hypothesised. In conducting ANOVA with planned comparisons or *a priori* tests, the researcher hypothesises which means will be significant different to each other prior to data collection (Brace et al., 2000). According to Brace et al. (2000), the probability of a Type I error is significantly reduced for planned comparisons and is higher for multiple comparisons. When the researcher does not predict which means will significantly differ from one another before collecting data, *a posteriori* or *post hoc* comparisons are conducted.

For planned comparisons, it is not necessary for the omnibus F or overall main effect to be significant in order to test whether the mean of specific groups differ from each other (Brace et al., 2000). Three different types of comparisons are possible employing planned comparisons: one group mean may be compared to another group mean; one group mean may be compared to the composite mean of two or more groups; the composite mean of one set of groups may be compared to the composite mean of another set of means (Brace et al., 2000).

Planned comparisons may be orthogonal or non-orthogonal. Brace et al. (2000) cautions that in order to conduct more than one planned comparison test employing the same group mean, the researcher needs to ensure that the comparisons do not overlap and are independent of each other. These types of comparisons are referred to as orthogonal comparisons (Brace et al., 2000).

Orthogonal comparisons entail testing a single mean or a composite mean only once. If only orthogonal comparisons are conducted, then one group mean can be included in the comparisons only once. In a one-way ANOVA with orthogonal planned comparisons; only $a - 1$ comparisons can be conducted, where a refers to the number

of groups/means in the analysis design (Gamst et al., 2008). This study has four groups, therefore in case of orthogonal comparisons; for any given set of planned comparisons – four separate contrasts may be conducted. Non-orthogonal comparisons involve comparisons which are not independent of each other. These may include the full range of pairwise and non-pairwise, single and composite mean comparisons. However, it has been pointed out that the research requirements should take priority in deciding which comparisons should be analysed and not orthogonality (Gamst et al., 2008; Myers & Well, 2003). Therefore, this study adopted the planned comparisons most relevant to this study, which is non-orthogonal. In non-orthogonal planned comparisons, the potential of a family-wise Type I error is increased. In order to test the hypotheses that have been framed, this study has compared the same group to each of the other groups – thereby the same group mean has been compared three separate times. This may call for a Bonferroni correction of $0.05/3$; thereby leading to a Bonferroni corrected alpha threshold of 0.017. In testing some of the hypotheses in the second phase, the Bonferroni correction has been applied to the calculations. However, interestingly it was found that those comparisons which were significant, were significant both before and after applying Bonferroni correction.

7.13 CHAPTER CONCLUSION

This chapter has delineated the methodology and methods embraced by this study which included identifying a realist ontology, positivist epistemology, nomothetic methodology and survey based quantitative methods. The two-phased survey design has been explained here along with the outcomes of the pilot study. Furthermore, relevant ethical issues have been evaluated along with relating the ethics approval process this thesis has undergone. Furthermore, the fieldwork activities have been explained. Finally key data analysis decisions and their justifications have been presented. The following chapters report the results and data analyses.

CHAPTER 8: DATA TREATMENT: LEADER SELF-RATINGS (PHASE 1) AND FOLLOWER-RATINGS OF LEADERS (PHASE 2)

8.0 CHAPTER INTRODUCTION

This chapter presents the preliminary results for Phase 1 and Phase 2 in terms of response rates, data homogeneity tests, treatment of missing data, data normality, descriptive statistics, reliability and validity of the data. This chapter is followed by chapters on data analysis involving hypotheses testing. In this chapter, data obtained from both leader self-ratings and follower-ratings of the leaders have been examined. Where appropriate, comparisons have been made with the control group and normative group data.

8.1 STUDY SAMPLE AND RESPONSE RATE

Data has been collected from leaders and their reporting staff working in NHS Trusts in the North of England. Research sites include 2 acute trusts, 4 primary care trusts and 1 mental health hospital.

The final sample for phase 1 comprised of 309 participants. In total 1748 questionnaires were sent out to the different trusts, out of which 359 questionnaires were completed and returned. 309 of these responses were usable. 27 responses had to be excluded from the analysis due to unacceptable levels of missing data and 22 responses had to be excluded as the respondents indicated that they did not have members of staff reporting to them directly or indirectly and therefore did not see themselves in a leadership role. One respondent described his work environment as not being engaged in change. As this study is being conducted within the context of change, this particular response was not included in the analysis.

With 359 returns, the initial response rate was 20.54%; however, after filtering the responses not suitable for inclusion in the analysis; the response rate for phase 1 of this investigation is 17.7%. Table 8.1 exhibits the breakdown of questionnaires sent out and returned from each individual site.

Table 8.1: Phase 1 – Numbers of Questionnaires Sent and Returned

RESEARCH SITES	QUESTIONNAIRES SENT	QUESTIONNAIRES RETURNED	USABLE RESPONSES	RESPONSE RATE (%)
ACT1	699	132	118	16.9
ACT2	550	86	73	13.2
PCT1	142	49	37	26.1
PCT2	30	19	19	63.3
PCT3	40	12	11	27.5
PCT4	54	19	18	33.3
MHT1	233	42	33	14.1
TOTAL	1748	359	309	17.7

In phase 2, 486 followers were contacted and sent questionnaires to report on their respective focal leaders. 231 followers completed and returned the questionnaires, yielding an initial response rate of 47.53%. 11 responses had to be excluded from the analysis due to unacceptable levels of missing data or extreme outliers. After filtering the unusable responses, the total number of responses that were analysed is 220. Hence, the final response rate from the followers was 45.27%. Table 8.2 shows the breakdown of follower responses from each trust.

Table 8.2: Phase 2 – Numbers of Questionnaires Sent and Returned

RESEARCH SITES	QUESTIONNAIRES SENT	QUESTIONNAIRES RETURNED	USABLE RESPONSES	RESPONSE RATE (%)
ACT1	150	64	63	42
ACT2	148	86	84	56.8
PCT1	47	25	23	48.9
PCT2	33	16	15	45.5
PCT3	36	10	10	27.7
PCT4	30	4	4	13.33
MHT1	42	26	21	50
TOTAL	486	231	220	45.27

8.2 COMBINING SAMPLES: CHECK FOR NHS SAMPLE HOMOGENEITY

Table 8.1 and table 8.2 indicate the number of responses received from each of the seven NHS trusts. As the data was collected from seven different trusts of the same organisation, in order to achieve a satisfactory sample size, it was appropriate to combine the individual trust samples. However, before this was done, sample homogeneity was ascertained by conducting one way ANOVA tests on the data collected from different NHS sites.

One way ANOVA tests were carried out on the aggregate scores of the key constructs being examined in this thesis for leader self-ratings and follower-ratings of the leaders: SUEIT, EIQ, TL, TrL, LFL and OL. Leaders' self-ratings on social desirability was also tested for homogeneity. Each group comprised different subjects; therefore, a *between-groups* ANOVA test was conducted. One-way ANOVA was computed as there is only one 'independent variable' and this has different groups (Pallant, 2007).

The results (appendices 11 and 12) showed that there was no significant difference in the mean scores between any two sites with respect to *all* the variables for both leader self-ratings and follower-ratings; thereby, confirming that the data from the different sites are homogeneous and represent the same population. Hence, data from the leaders in the different NHS trusts have been reliably combined to form a single sample and data from followers were also combined. However, follower-ratings were combined subject to *rwg* (reliability within-group or within-group interrater agreement) calculations and into self-other categories. This has been explained in section 10.5.

8.3 TREATMENT OF MISSING DATA FOR EACH VARIABLE

Missing data has been treated in different ways depending on the questionnaire. This has been explained below.

With regard to the SUEIT, if any one item for any sub-scale was missing, the relevant scale was not computed. If any one of the sub-scales were missing, then the higher order factor was not computed. In order to compute the higher order factor, all the sub-scales needed to be represented.

For the EIQ, if any item was missing, the total score was not computed. This was necessary because the EIQ had to be scored using the EIQ software, supplied by Granada Learning. The scoring key of the EIQ has not been disclosed by the authors and is not available in the public domain. If any item is missing, the software cannot generate any scores.

For the MLQ, each subscale was computed if two or more items for each subscale had been completed. If more than two items were missing then the relevant scale was not computed and therefore that scale was rendered missing. Similar to the SUEIT, all sub-scales had to be represented to compute the higher order factor.

If any item was missing for the MCSDS, the total score for these questionnaires was not computed as this is a unidimensional scale.

While computing descriptive statistics and correlation, the SPSS option of 'Exclude cases pairwise' was selected. This ensures that in carrying out the specific calculation, SPSS excludes the individual case or participant only if the data for the necessary analysis is unavailable. This allows SPSS to still include that particular respondent's answers for any analyses for which requisite data is available (Pallant, 2007).

8.4 ASSESSING NORMALITY

In order to assess data normality, the Kolmogorov-Smirnov test, skewness, kurtosis and 5% trimmed mean values were computed for leader self-ratings and follower ratings on the SUEIT, EIQ, TL, TrL, LFL, OL and MCSDS total scores.

The rule for interpreting the Kolmogorov-Smirnov is that if the result is non-significant (above 0.05) then the distribution is normal. Nonetheless, significant caution is maintained, as the Kolmogorov-Smirnov test has a propensity to reach significant values with large sets of data even when the data is normal. Both phase 1 and phase 2 had large samples; 309 and 220 responses respectively. Therefore, graphical representations including histograms, Q-Q plots and box-plots were drawn up to visually assess data normality (Pallant, 2007; Field, 2005).

Histograms showed the actual shape of the distribution. The normal Q-Q plots compared the observed values with the expected values of a normal distribution having the same mean and standard deviation values.

Box plots highlighted the outliers. Each outlier was reviewed to ensure that the data had been entered correctly. While most of the outliers were genuine, some data entry errors were located and corrected. Having located these errors, the author entertained caution and surveyed the whole data set again to ensure rigour and make sure that all data was correctly entered. A decision was made to delete one participant's response as nearly all the answers were outliers indicating that the participant may have misinterpreted the Likert scales. In the remaining cases, where the data had been entered accurately and yet computations flagged them up as outliers, no changes were incorporated and the data was retained in its true form for data analysis.

After incorporating the above corrections, the above-mentioned tests of normality were conducted again. Given the large sample sizes, the Kolmogorov-Smirnov test achieved significant results for all the key variables; however this has been read in the light of the large data-sets (309 and 220). Nonetheless, comparing the mean

scores and corresponding 5% trimmed mean scores²⁶, very little difference can be seen; indicating the presence of a very small number of outliers (T8.3 and T8.4). The skewness and kurtosis for all the distributions have also been numerically computed. The results (tables 8.3 and 8.4) show that LFL data displayed a marked amount of positive skew (0.91 and 1.5 respectively).

Table 8.3 - Normality Test Results for Leader Self-Ratings

INDICATORS OF NORMALITY FOR LEADER SELF-RATINGS					
<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>5% Trimmed Mean</i>	<i>Skewness</i>	<i>Kurtosis</i>
<i>SUEIT</i>	304	226.66	227.03	-0.33	1.13
<i>EIQ</i>	309	263.34	263.46	-0.06	0.65
<i>TL</i>	304	3.08	3.08	0.08	-0.49
<i>TrL</i>	305	1.97	1.98	-0.06	0.16
<i>LFL</i>	309	0.53	0.49	0.91	0.46
<i>OL</i>	286	3.09	3.09	0.02	-0.27

Table 8.4 – Normality Test Results for Follower-Ratings of Focal Leaders

INDICATORS OF NORMALITY FOR FOLLOWER RATINGS OF FOCAL LEADERS					
<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>5% Trimmed Mean</i>	<i>Skewness</i>	<i>Kurtosis</i>
<i>SUEIT</i>	167	221.95	222.27	-0.28	0.49
<i>EIQ</i>	220	265.37	266.85	-0.85	0.62
<i>TL</i>	219	2.76	2.79	-0.84	0.81
<i>TrL</i>	220	1.91	1.92	-0.24	-0.17
<i>LFL</i>	220	0.6	0.51	1.5	1.9
<i>OL</i>	220	2.22	2.27	-0.96	0.34

Some expected skewness and kurtosis is present in all the variables, however LFL ratings display a markedly higher degree of positive skew and kurtosis (tables 8.3 and 8.4). However, Tabachnik and Fidell (2007) point out that in large samples, significant skewness and kurtosis do not make a marked difference to the statistical analysis. Hair et al. (2006) state that for sample sizes larger than 200 units, the effects of non-normality tend to be negligible. The sample sizes for both phases are large in this thesis (over 300 and over 200 units); therefore can be concluded that the non-zero skewness and kurtosis will not make a substantive difference to the analysis (Tabachnik & Fidell, 2007, Hair et al., 2006).

²⁶ To obtain the 5% trimmed mean, the top and bottom 5% cases are removed and a new mean is calculated to see if the extreme scores are strongly influencing the mean (Pallant, 2007).

Furthermore, visually investigating the histograms and Q-Q plots revealed that with the exception of LFL, all the variables had a reasonably normal distribution for both phase 1 and phase 2 datasets. The LFL distribution demonstrated a positive skew for leader self-ratings and follower-ratings of leaders (figure 8.1 & 8.2) [Remaining graphs are presented in appendices 13 and 14].

Figure 8.1 – Leader Self-Ratings LFL Histogram

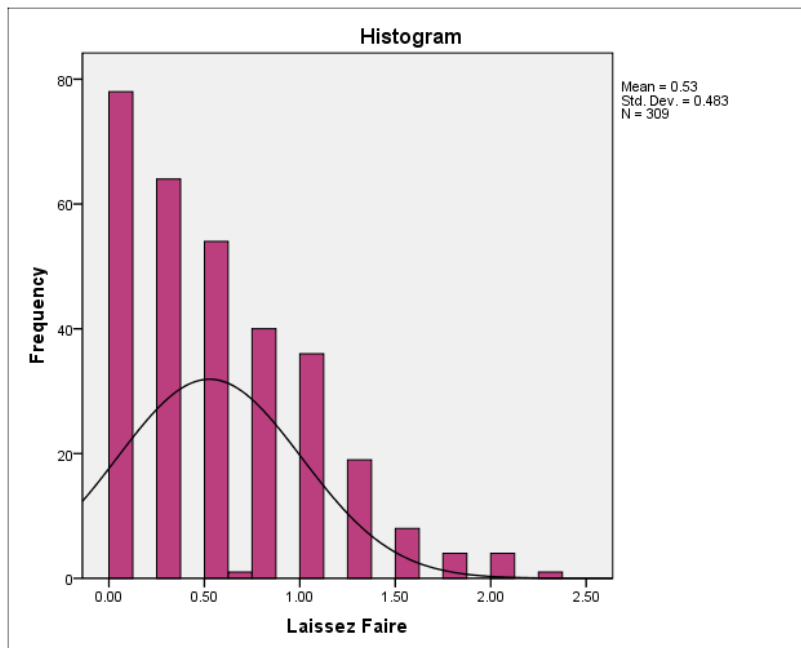
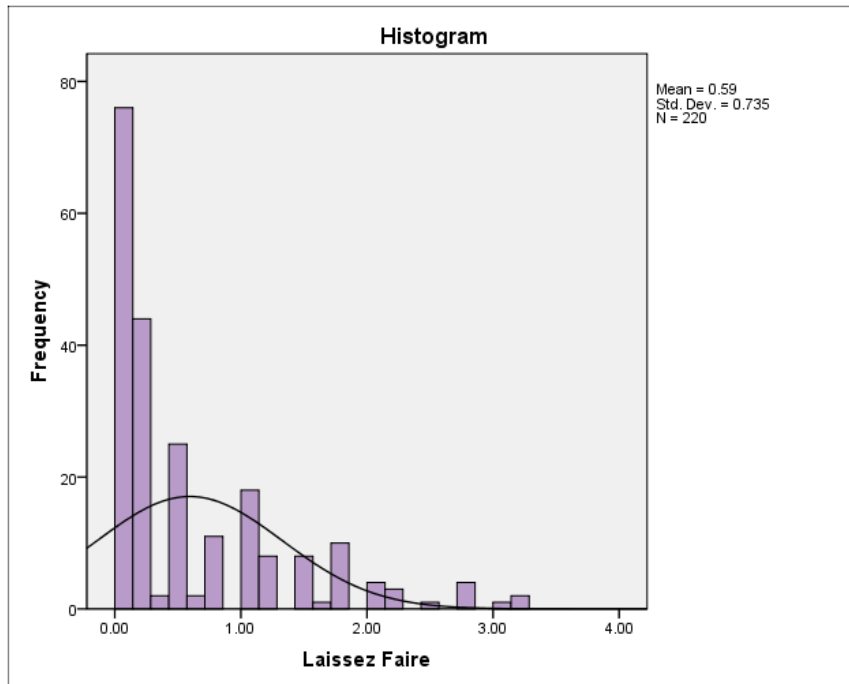


Figure 8.2 Follower-Ratings of LFL Histogram



The Q-Q plot also shows that the data is not normal (figure 8.3 & 8.4). The straight line indicates what the normal distribution would look like for data with the same mean and standard deviation. The individual scores that were observed are plotted along the line – if these scores consistently appear to maintain a clear distance from this line it indicates that the data is not normal. Both leader self-ratings and follower-ratings reflect this, showing that LFL has not achieved a normal distribution in this study.

[Please Turn Over]

Figure 8.3 Laissez Faire Leadership Normal Q-Q Plot - Leader Self-Ratings

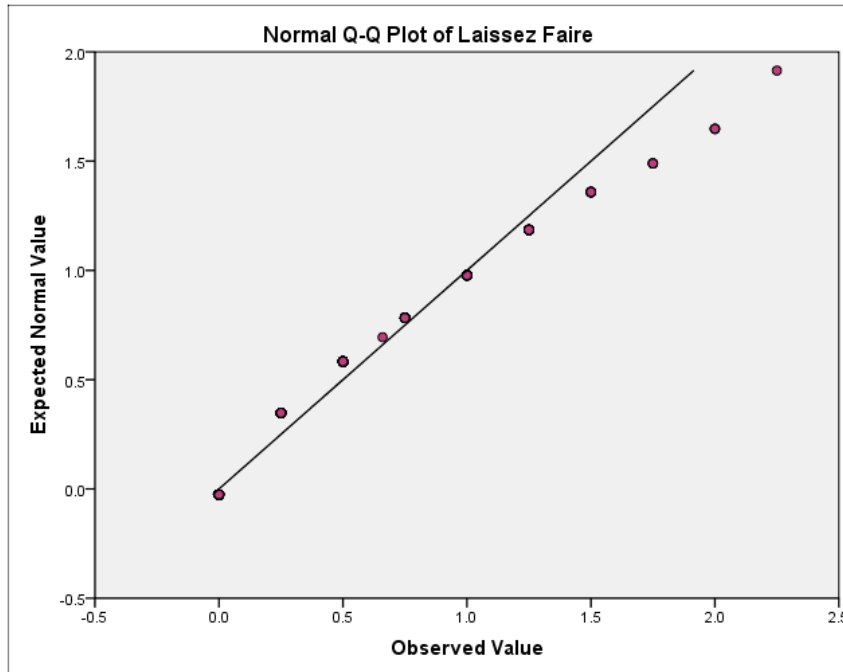
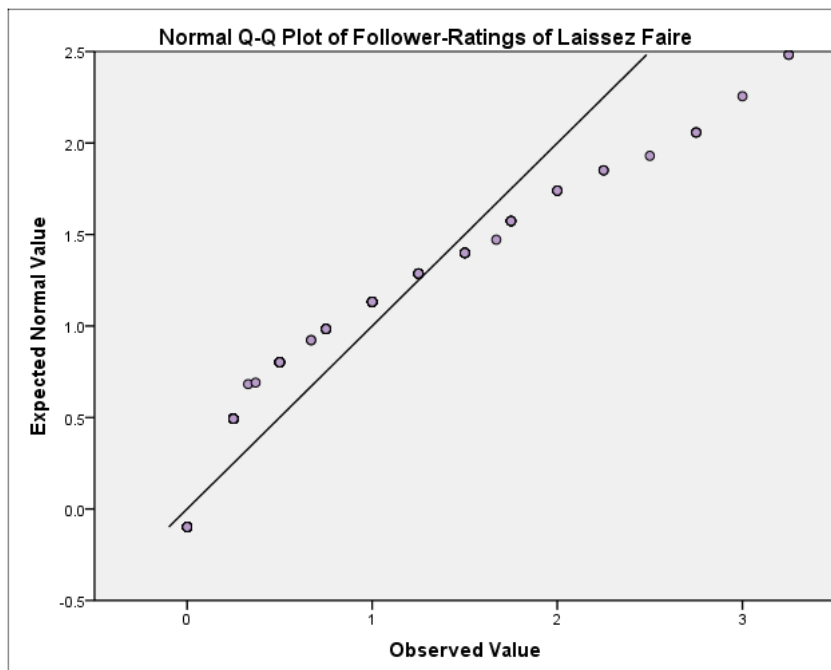


Figure 8.4 Laissez Faire Leadership Normal Q-Q Plot - Follower-Ratings



Usually, if data is not normal, non-parametric tests are advised (Pallant, 2007). However, LFL represents the absence of leadership or non-leadership. In an environment marked by radical change, leaders would not be expected to engage in this leadership style. Therefore most leaders would be expected to receive low LFL scores, thereby resulting in skewed data. According to Tabachnik and Fidell (2007) some variables, by virtue of their definition will yield a skewed distribution as most people will receive scores at the higher or lower end. In such cases, they indicate that using parametric tests is acceptable (Tabachnik & Fidell, 2007). Taking all the above arguments into account, parametric tests will be applied to all the variables.

8.5 MEASUREMENT OF VARIABLES AND OPERATIONAL DEFINITIONS

In a seminal paper Stevens (1946) introduced a hierarchy of measurement scales: *nominal*, *ordinal*, *interval* and *ratio* level data based on “invariance of their meaning under different classes of transformation” (Velleman & Wilkinson, 1993: 65). While this classification system is not without its critics (Velleman & Wilkinson, 1993), this taxonomy has been subsequently adopted by major statisticians and is considered a standard starting point for statistical analyses in general (Rose & Sullivan, 1996; Field, 2005).

On one extreme of the hierarchy is *nominal* level data which can be classified into discrete categories, however this kind of data cannot be ordered in terms of rank neither can the difference between different data-points be quantitatively measured. *Ordinal* level data can be arranged in discrete categories and can be assigned ranks; however this type of data cannot be measured in terms of distance between data-points. *Interval* and *ratio* level data can be placed in distinct categories, assigned ranks and the distance between two data-points can be measured quantitatively. The difference between an *interval* and *ratio* level data is that the latter has an absolute zero and the former has an arbitrary zero. For the purposes of business and social science research the terms *interval* and *ratio* level data tend to be used interchangeably (Rose & Sullivan, 1996). This thesis employs the term *interval* level data to refer to this type of continuous data. Interval/ratio level data represent the

highest end of the hierarchy and in order to generate meaningful results sophisticated statistical techniques like correlation and regression are permissible with this level of data.

Labovitz (1967) pioneered the treatment of ordinal level data (e.g. likert scales) as if they were interval level data showing empirical support for this phenomenon. While this approach has its critics (Mayer, 1971) and researchers advocate exercising caution (Grether, 1976); nonetheless, this method has received endorsement through further arguments and empirical studies (Labovitz, 1971; Kim, 1975; O'Brien, 1979) showing that multivariate methods for interval level data can be applied to ordinal level variables as the results obtained outweigh any small bias that may occur. This method has received widespread acceptance and “there seems to be a trend in the direction of this more liberal treatment of multi-item scales as having the qualities of an interval variable” (Bryman & Cramer, 2005: 71). Bryman and Bell (2003) state that many authors argue in favour of this approach as multiple-item or Likert scales generate a “relatively large number of categories” (Bryman and Bell, 2003: 240). In line with this precedence, this thesis treats ordinal level data in the form of multi-item or Likert scales, as interval level data. Furthermore, it was established that having 5-6 categories on likert scales of ordinal data produced meaningful results when treated as interval level data in statistical analyses (Labovitz, 1971). All the Likert scales of ordinal level data in this thesis have at least 5 categories thereby reducing possibility of bias creeping in and satisfying recommended standards.

With the above understanding, the following indicates the operational definition and scale of measurement for all the constructs being examined in this thesis.

Emotional Intelligence Measures:

Emotional Intelligence - Swinburne University Emotional Intelligence Test (SUEIT)

Operational Definition: The emotional intelligence of an individual as defined by his or her score on the SUEIT (Palmer, 2001). This measure of EI can be argued to display similarities with measuring the ability-based model of EI.

Level of Measurement: Ordinal treated as Interval

Emotional Intelligence – Emotional Intelligence Questionnaire (EIQ)

Operational Definition: The emotional intelligence of an individual as defined by his or her score on Higgs and Dulewicz's (2002) EIQ. This measure of EI aligns with measuring the mixed-model of EI.

Level of Measurement: Ordinal treated as Interval

Leadership Measures:

Full Range Leadership Model (FRLM): FRLM encompasses the three leadership styles: transactional leadership, TL and laissez-faire leadership and their constituent factors, as conceptualised by Avolio and Bass (2004).

Multifactor Leadership Questionnaire (MLQ): MLQ is the title of the psychometric instrument that measures FRLM.

Transformational Leadership (TL) & TL factors

Operational Definition: The TL of an individual is derived from his or her average scores on the four TL factors: *idealised influence*, *inspirational motivation*, *intellectual stimulation* and *individualised consideration*. An individual's competence on these four dimensions is indicated by the scores on the above-named factors as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Transactional Leadership (TrL) & TrL factors

Operational Definition: The TrL of an individual is derived from his or her average scores on the three TrL factors: *management-by-exception (active)*, *management-by-*

exception (passive) and contingent reward. An individual's competence on these three dimensions is indicated by the scores on the above-named factors as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Laissez Faire Leadership (LFL)

Operational Definition: The LF leadership of an individual is defined by his or her score on LF leadership as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Outcomes of Leadership (OL) and OL Factors

Operational Definition: Leadership Outcome of an individual's leadership behaviour is defined by his or her score on OL as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Effectiveness (EE)

Operational Definition: Effectiveness (a factor of OL) of an individual's leadership behaviour is defined by his or her score on 'effectiveness' as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Satisfaction (S)

Operational Definition: Satisfaction (a factor of OL) of an individual's leadership behaviour is defined by his or her score on 'satisfaction' as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Extra Effort (EE)

Operational Definition: Extra Effort (a factor of OL) of an individual's leadership behaviour is defined by his or her score on 'extra effort' as measured by the MLQ.

Level of Measurement: Ordinal treated as Interval

Marlowe Crowne Social Desirability:

Marlowe Crowne Social Desirability Scale (MCSDS)

Operational Definition: The social desirability of an individual as defined by his or her score on Crowne and Marlowe's (1960) social desirability scale.

Level of Measurement: Ordinal treated as Interval

8.6 RELIABILITY TESTING: TEST-RETEST ANALYSIS AND INTERNAL CONSISTENCY

Reliability refers to the stability of a particular instrument over time and the internal consistency of the instrument (Kline, 2000).

Test-retest reliability involves the same set of subjects taking the same psychometric test on two separate occasions with a time lag in between. Thereafter the two sets of scores are correlated. A high test-retest correlation shows that the test is sufficiently reliable and stable over time (Kline, 2000). Ideally, the time interval between these two occasions should be at least three months. Test-retest reliability was ascertained employing a sub-sample of 61 participants. The time interval between the first and second administration of the tests was approximately 6 months. Table 8.5 shows that with the NHS test-retest dataset, all the instruments correlated highly significantly ($p < 0.001$) with correlation r ranging from 0.42 to 0.86. Therefore, with the exception of TrL and OL; most scales achieved an r close to the desired value of 0.7 (Kline, 2000). Kline (2000) does point out that a higher test-retest coefficient can be

obtained with a larger sample size and with a lesser time interval. However, due to logistics and time constraints, this was not possible in this study. Nonetheless, all scales achieved highly significant correlation score. Furthermore, paired samples *t*-tests were also conducted to ascertain test-retest reliability (table 8.5). No significant difference was revealed in the mean scores obtained in the first test and the retest for any of the instruments. Therefore, on balance, it was concluded that the scales demonstrated acceptable test-retest reliability.

Table 8.5: Reliability Tests on All Instruments

Reliability Tests on All Instruments												
Instrument	Cronbach Alpha (Leaders)	Cronbach Alpha (Follower-Ratings)	Test-Retest <i>r</i>	Paired-Samples <i>T</i> -Test						Significance (<i>p</i>)	Degree of Freedom	N of Items
				Means		Standard Deviations		<i>t</i> Statistic (two-tailed)				
				First Test	Retest	First Test	Retest					
SUEIT	0.91	0.93	0.81**	227.34	225.75	17.42	18.05	1.15	0.26	60	64	
EIQ	0.73	0.82	0.57**	263.84	260.28	18.28	16.39	1.72	0.09	60	69	
TL	0.85	0.92	0.61**	3.07	3.04	0.41	0.44	0.64	0.53	58	20	
TrL	0.58	0.46	0.42**	1.96	1.92	0.42	0.41	0.84	0.41	60	12	
LFL	0.52	0.79	0.62**	0.48	0.56	0.47	0.46	-1.56	0.12	51	4	
OL	0.83	0.92	0.45**	3.08	3.08	0.46	0.51	0	1	60	9	
MCSDS	0.78	-	0.86**	18.86	18.51	5.24	5.2	-1.95	0.06	60	33	
Change Involvement	0.86	0.89	0.63**	3.5	3.78	0.63	0.7	1.87	0.07	40	6	

Significance Level: ** = $p < 0.001$, * = $p < 0.05$

Internal consistency examines whether a test is measuring what it is supposed to be measuring – a high internal consistency is considered a prerequisite for high validity (Kline, 2000). This checks that the items creating the scale ‘hang together’ (Pallant, 2007). The best indicator of internal consistency is the the alpha coefficient or Cronbach alpha. It is argued that ideally the Cronbach alpha coefficient should not fall below 0.7 (Nunnally, 1978; DeVellis, 2003; Pallant, 2007).

Internal consistency of all the scales used in this study was examined for leader self-ratings and follower-ratings of their leaders. Table 8.5 shows that Cronbach alpha for

all the instruments employed in this study are 0.7 or above, with the exception of leader self-ratings for TrL (0.6 approximately), leader self-ratings of LFL (0.5 approximately) and follower-ratings of TrL (0.5 approximately); thereby confirming the internal consistency reliability of the remaining psychometric tests (SUEIT, EIQ, TL, OL, MCSDS and Change Involvement) (Table 8.5).

Some earlier studies have also found lower alpha levels for TrL, whereby some TrL factors loaded better on TL attributing that low reliability level to the nature of the instrument and not anomalous data (Bycio et al., 1995). However, it may be pointed out that with scales that consist of fewer items (around 10 or less); Cronbach alpha tends to be quite low. In such cases, it is preferable to compute the mean inter-item correlation for the items on the scale. The optimal range for these inter-item correlations is considered to be 0.2 to 0.4 (Pallant, 2007). TrL and LFL consist of 12 and 4 items respectively (i.e. around 10 or less); therefore, in order to ensure rigour; mean inter-item correlations have been computed for the individual scales that compose the MLQ variables for leader self-ratings and follower-ratings of their leaders (table 8.6). All the scales achieved the desirable mean inter-item correlation and in some cases, a high Cronbach alpha; thereby confirming the internal consistency reliability of all the scales.

[Please Turn Over]

Table 8.6: MLQ – Mean Inter-Item Correlations and Cronbach Alpha

<i>Variables</i>	<i>Leaders Self-Ratings</i>		<i>Follower-Ratings of Leaders</i>		Number of Items
	Mean Inter-Item Correlation	Cronbach Alpha	Mean Inter-Item Correlation	Cronbach Alpha	
<i>TL</i>					
Idealised Influence (Attributes)	0.22	0.51	0.44	0.76	4
Idealised Influence (Behaviour)	0.29	0.62	0.35	0.68	4
Inspirational Motivation	0.44	0.75	0.58	0.84	4
Intellectual Stimulation	0.34	0.68	0.48	0.79	4
Idealised Consideration	0.29	0.6	0.29	0.58	4
<i>TrL</i>					
Contingent Reward	0.27	0.58	0.48	0.78	4
Management by Exception (Active)	0.38	0.71	0.34	0.67	4
Management by Exception (Passive)	0.23	0.48	0.33	0.62	4
<i>LFL</i>	0.22	0.83	0.49	0.79	4
<i>OL</i>					
Extra Effort	0.42	0.65	0.54	0.76	3
Effectiveness	0.37	0.7	0.62	0.86	4
Satisfaction	0.3	0.45	0.74	0.85	2

In addition, the mean inter-item correlations have been computed for the self developed ‘change involvement’ questions; which have relatively fewer items (table 8.7). Both mean inter-item correlations and Cronbach alpha for leader self-ratings and follower-ratings of leaders achieved acceptable internal consistency levels (see table 8.7).

Table 8.7: Change Involvement: Mean Inter-Item Correlations & Cronbach Alpha

<i>Variables</i>	<i>Leaders Self-Ratings</i>		<i>Follower-Ratings of Leaders</i>		Number of Items
	Mean Inter-Item Correlation	Cronbach Alpha	Mean Inter-Item Correlation	Cronbach Alpha	
Change Involvement	0.51	0.86	0.59	0.89	6

Factor wise internal consistency was also calculated for SUEIT. Table 8.8 displays the Cronbach alpha obtained for each individual dimension of the SUEIT with leader self-ratings and follower-ratings. All the SUEIT factors achieved a Cronbach alpha score close to 0.7 or higher, thereby satisfying the advocated requisite of 0.7 (Nunnally, 1978; DeVellis, 2003; Pallant, 2007).

Table 8.8: Internal Consistency Test on Scales of SUEIT

<i>SUEIT Scale</i>	<i>Cronbach Alpha</i>		Number of Items
	<i>Leader Self-Ratings</i>	<i>Follower-Ratings of Leaders</i>	
Emotional Recognition/ Expression	0.82	0.76	11
Understanding Emotions / External	0.9	0.94	20
Emotions Direct Cognition	0.78	0.64	12
Emotional Management	0.78	0.87	12
Emotional Control	0.74	0.74	9
Total	0.91	0.91	64

As the authors of the EIQ have not revealed which items make up which factors, calculating factor-wise internal consistency for the EIQ was not possible. The MCSDS is a unifactorial scale, therefore calculating factor-wise internal consistency was not applicable here.

8.7 DEMOGRAPHIC STATISTICS

8.7.1 GENDER, AGE AND MARITAL STATUS

The leaders' sample of 309 participants consisted of 98 (31.7%) male and 211 (68.3%) female respondents. The followers' sample comprised 39 (17.7%) males and 181 (82.3%) females.

The highest number of respondents (46%) belonged to the age group of 41-50 years. The majority of the respondents reported being married or living as married (85.1%). Table 8.9 shows the frequency distribution of the age brackets of the respondents and the frequency distribution for marital status.

Table 8.9: Age of Leaders and Followers

Years	Leaders		Followers	
	Frequency	Percentage Frequency	Frequency	Percentage Frequency
21 – 30	9	2.9	36	16.4
31 – 40	79	25.6	49	22.3
41 – 50	142	46	78	35.5
51 – 60	75	24.3	53	24.1
61 – 70	4	1.3	4	1.8
Total	309	100	220	100

Table 8.10: Marital Status of Leaders and Followers

Marital Status	Leaders		Followers	
	Frequency	Percentage Frequency	Frequency	Percentage Frequency
Single	22	7.1	33	15
Married / Living as Married	263	85.7	158	71.8
Separated	3	1	5	2.3
Divorced	14	4.5	18	8.2
Widowed	5	1.6	5	2.3
Missing	2	0.6	1	0.5
Total	309	100	219	100

[Please Turn Over]

8.7.2 HIGHEST LEVEL OF EDUCATIONAL ACHIEVEMENT

Over half of the sample indicated having a higher education qualification with the majority having a university degree (32% for leaders and 33.6% for followers) as the level of educational achievement. Table 8.11 exhibits the frequency distribution for highest level of educational achievement.

Table 8.11: Highest Educational Achievement

EDUCATIONAL QUALIFICATION	LEADERS		FOLLOWERS	
	Frequency	Percentage	Frequency	Percentage
PhD / Doctorate	23	7.4	2	0.9
University Masters	83	26.9	30	13.6
Chartered Qualification / Professional Membership	11	3.6	1	0.5
University Degree	99	32	74	33.6
Diploma	10	3.2	16	7.3
University (Partial Completion)	19	6.1	13	5.9
Technical Training / Vocational Qualification	19	6.1	35	15.9
A Level / Highers	7	2.3	15	6.8
O Level / GCSE	12	3.9	28	12.7
Professional Qualification (not Chartered)	16	5.2	0	0
Other	9	2.9	5	2.3
Missing	1	0.3	1	0.5
Total	309	100	220	100

8.7.3 CLINICAL AND NON-CLINICAL EMPLOYEES

188 (60.8%) participants were clinical staff and 119 (38.5%) were non-clinical staff. 2 participants identified themselves as both clinical and non-clinical staff. Table 8.12 displays this distribution.

Table 8.12: Type Of Staff: Clinical / Non-Clinical

Types of Staff	Leaders		Followers	
	Frequency	Percentage	Frequency	Percentage
Clinical	188	60.8	135	61.4
Non – Clinical	119	38.5	85	38.6
Clinical & Non-Clinical	2	0.6	0	0
Missing	0	0	0	0

Total	309	100	220	100
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8.7.4 INCOME RANGE

The majority (46.9%) of the leaders indicated that their income belonged to the £30,001-40,000 bracket. However the majority of the followers (35.5%) belonged to a lower income bracket of £20,001 – 30,000. 17.2% leaders and 1.8% followers indicated their earnings were over £60,000. Table 8.13 displays the frequency distribution for respondents’ income.

Table 8.13: Income Range of Leaders and Followers

Income Band	Leaders		Followers	
	Frequency	Percentage	Frequency	Percentage
Less than £15,000	1	0.3	16	7.3
15,001 – 20,000	2	0.6	48	21.8
20,001 – 30,000	37	12	78	35.5
30,001 – 40,000	145	46.9	65	29.5
40,001 – 50,000	50	16.2	4	1.8
50,001 – 60,000	18	5.8	2	0.9
Above 60,000	53	17.2	4	1.8
Missing	3	1	3	1.4
Total	309	100	220	100

8.7.5 POSITION IN ORGANISATION

Participants were required to indicate whether they identified themselves as a director, part of senior management, a middle manager, manager, supervisor, staff or consultant. However, very few participants identified themselves as middle managers. In addition, some participants identified themselves as managers and some as middle managers while engaged in similar jobs. Therefore a t-test has been conducted to ascertain if these two groups are actually homogeneous (table 8.14).

Table 8.14: Homogeneity of Middle Managers and Managers among Leaders and Followers

<i>T-Test Comparing Mean between Middle Managers and Managers</i>								
Variables	N		Mean		Standard Deviation		<i>t</i> statistic (two-tailed)	Significance (<i>p</i>)
	Middle Managers	Managers	Middle Managers	Managers	Middle Managers	Managers		
Leaders Self-Ratings								
SUEIT	29	91	231.04	227.04	13.07	14.42	1.33	0.19
EIQ	30	93	262.13	261.07	15.69	14.39	0.35	0.73
TL	29	90	3.11	3.13	0.46	0.38	-0.19	0.85
TrL	30	92	1.99	1.95	0.47	0.4	0.4	0.69
LFL	30	93	0.62	0.58	0.56	0.56	0.33	0.74
OL	28	86	3.16	3.1	0.39	0.43	0.6	0.55
MCSDS	29	87	19.66	18.86	5.27	5.43	0.69	0.49
None of the above <i>t</i> -test results are significant								
Follower-Ratings								
SUEIT	24	18	218.04	219.66	18.17	26.48	-0.24	0.82
EIQ	33	23	260.76	266.52	25.89	32.23	-0.74	0.46
TL	33	23	2.71	2.84	0.65	0.75	-0.67	0.51
TrL	33	23	1.96	1.87	0.36	0.53	0.72	0.47
LFL	33	23	0.8	0.61	0.85	0.63	0.89	0.38
OL	33	23	2.16	2.24	0.65	0.72	-0.39	0.7
None of the above <i>t</i> -test results are significant								

The mean scores obtained by middle managers and managers are not significantly different for any of the variables (table 8.14) for both leaders and followers, therefore the middle managers and managers characteristics can be considered to be homogeneous. Hence, these two groups have been merged to form one group under the label of ‘managers’. From this point onwards in this thesis, these two groups have been treated as one and the same group called ‘managers’.

The following table (table 8.15) shows the frequency distribution of participants’ positions in the NHS. The highest number of leaders were managers (39.8%), closely followed by senior managers (33%). In contrast, the highest number of followers identified themselves with the staff category (49.5%) closely followed by the managerial position (25.5%).

Table 8.15: Position in the NHS

<i>Position in the NHS</i>				
Post Level	Leaders		Followers	
	Frequency	Percentage Frequency	Frequency	Percentage Frequency
Director	20	6.4	0	0
Senior Manager	102	33	13	5.9
Manager	123	39.8	56	25.5
Supervisor	15	4.9	26	11.8
Staff	10	3.2	109	49.5
Consultant	31	10	1	0.5
Other	7	2.3	15	6.8
Missing	1	0.3	0	0
Total	309	100	220	100

8.7.6 REPORTING STAFF

In order to fulfil the criteria of being in a leadership role, participants needed to have members of staff reporting to them. Having reporting staff was also essential for the second phase of this study. All participants who have been included in this study had staff working under their management or supervision who reported to them. Respondents who indicated that that they did not have any direct or indirect reporting staff were not included in the sample.

[Please Turn Over]

8.8 DESCRIPTIVE STATISTICS OF KEY VARIABLES

8.8.1 OVERALL DESCRIPTIVE STATISTICS FOR NHS LEADERS

Table 8.16 and 8.17 provides an overview of the descriptive statistics in relation to the overall (total) scores of the key variables as per leaders self-ratings and follower-ratings.

Table 8.16: Summary of Descriptive Statistics - Leaders Self-Ratings

<i>Variable</i>	<i>n</i>	<i>Missing</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Range</i>
<i>SUEIT</i>	304	5	226.66	17.82	114
<i>EIQ</i>	309	-	263.34	15.27	105
<i>TL</i>	304	5	3.08	0.41	1.91
<i>TrL</i>	305	4	1.97	0.41	2.42
<i>LFL</i>	309	-	0.53	0.5	2.25
<i>OL</i>	286	23	3.09	0.45	2.25
<i>MCSDS</i>	300	9	19.21	5.1	25

Table 8.17: Summary of Descriptive Statistics – Follower-Ratings of Leaders

<i>Variable</i>	<i>n</i>	<i>Missing</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Range</i>
<i>SUEIT</i>	167	53	221.95	22.92	127
<i>EIQ</i>	220	-	265.37	27.44	139
<i>TL</i>	219	1	2.76	0.67	3.61
<i>TrL</i>	220	-	1.91	0.45	2.33
<i>LFL</i>	220	-	0.59	0.74	3.25
<i>OL</i>	220	-	2.22	0.64	2.63

8.9 ANALYSIS OF INSTRUMENTS – FACTOR-WISE BREAKDOWN OF DESCRIPTIVE STATISTICS

This section studies the descriptive statistics procured by each psychometric instrument. The mean, standard deviation and range calculated for the NHS leaders, and the normative samples (where available) has been summarised in various tables below.

8.9.1 DESCRIPTIVE STATISTICS FOR SUEIT AND EIQ

The EIQ and SUEIT were employed to measure EI with EIQ measuring the mixed-model of EI and SUEIT measuring the ability model of EI. Table 8.11.2 shows the descriptive statistics for the EIQ and SUEIT subscales. Relevant normative data has also been presented.

Table 8.18: Descriptive Statistics of SUEIT and EIQ Subscales

EMOTIONAL INTELLIGENCE MODELS - DESCRIPTIVE STATISTICS									
	Mean	Standard Deviation	Range	N		Mean	Standard Deviation	Range	N
Swinburne University Emotional Intelligence Test - 5 Factor Model					Emotional Intelligence Questionnaire				
Emotional Recognition/Expression					Self-awareness				
NHS Leaders Self-Ratings	38.07	5.29	34	306	NHS Leaders Self-Ratings	49.44	3.94	22	309
Norm (Exec)	39.72	4.8	-	1059	Norm (UK Managers)	49.58	4.07	27	422
Norm (General)	38.51	4.9	-	3012	Norm (All Managers)	49.52	4.27	27	604
NHS Follower-Ratings	39.47	5.39	32	204	NHS Follower-Ratings	49	6.69	36	220
Understanding Emotions (External)					Emotional resilience				
NHS Leaders Self-Ratings	77.02	7.2	45	308	NHS Leaders Self-Ratings	40.5	3.91	31	309
Norm (Exec)	78.8	7.51	-	1059	Norm (UK Managers)	40.92	4.06	27	422
Norm (General)	76.17	6.64	-	3012	Norm (All Managers)	40.79	4.28	27	604
NHS Follower-Ratings	73.43	11.05	68	194	NHS Follower-Ratings	42.67	5.99	31	220
Emotions Direct Cognition					Motivation				
NHS Leaders Self-Ratings	33.86	5.16	38	308	NHS Leaders Self-Ratings	36.126	2.924	18	309
Norm (Exec)	38.34	5.5	-	1059	Norm (UK Managers)	39.06	3.59	25	422
Norm (General)	39.05	5	-	3012	Norm (All Managers)	38.79	3.73	25	604
NHS Follower-Ratings	32.11	4.7	32	188	NHS Follower-Ratings	38.3	4.74	30	220
Emotional Management					Interpersonal sensitivity				
NHS Leaders Self-Ratings	43.46	4.71	36	305	NHS Leaders Self-Ratings	50.029	4.161	21	309
Norm (Exec)	44	5.19	-	1059	Norm (UK Managers)	49.1	4.44	28	422
Norm (General)	41.35	4.72	-	3012	Norm (All Managers)	49.08	4.48	28	604
NHS Follower-Ratings	44.21	6.58	34	202	NHS Follower-Ratings	48.06	7.21	38	220
Emotional Control					Influence				
NHS Leaders Self-Ratings	34.25	3.68	22	308	NHS Leaders Self-Ratings	36.586	3.054	22	309
Norm (Exec)	33.75	4.01	-	1059	Norm (UK Managers)	37.71	3.11	21	422
Norm (General)	31.66	3.94	-	3012	Norm (All Managers)	37.46	3.27	21	604
NHS Follower-Ratings	33.5	4.11	21	201	NHS Follower-Ratings	37.2	4.15	23	220
SUEIT (Total)					Intuitiveness				
NHS Leaders Self-Ratings	226.66	17.82	114	304	NHS Leaders Self-Ratings	23.236	2.893	16	309
Norm (Exec)	234.6	20.05	-	1059	Norm (UK Managers)	25.64	3.4	23	422
Norm (General)	221.75	17.25	-	3012	Norm (All Managers)	25.31	3.4	23	604
NHS Follower-Ratings	221.95	22.92	127	167	NHS Follower-Ratings	23.09	3.27	23	220
					Conscientiousness				
					NHS Leaders Self-Ratings	27.424	2.366	16	309
					Norm (UK Managers)	28.22	2.73	22	422
					Norm (All Managers)	28.03	2.79	22	604
					NHS Follower-Ratings	27.17	3.06	20	220
					EIQ (Total)				
					NHS Leaders Self-Ratings	263.343	15.266	105	309
					Norm (UK Managers)	270.23	16.53	139	422
					Norm (All Managers)	268.99	17.23	139	604
					NHS Follower-Ratings	265.37	27.44	139	220

8.9.2 DESCRIPTIVE STATISTICS FOR THE MLQ

The MLQ has been employed to measure the FRL model. Table 8.19 displays the break-down of the descriptive statistics for all the MLQ scales and sub-scales. While NHS sample comprises only UK leaders, the normative sample is US-based.

Table 8.19: Descriptive Statistics of MLQ Subscales

MULTIFACTOR LEADERSHIP QUESTIONNAIRE - DESCRIPTIVE STATISTICS									
	Mean	Standard Deviation	Range	N		Mean	Standard Deviation	Range	N
Transformational Leadership Scales					Transactional Leadership Scales				
Idealised Influence (Attributes)					Contingent Reward				
NHS Leader Self Ratings	2.78	0.56	3	304	NHS Leader Self Ratings	3.04	0.56	3	309
Norm	2.94	0.76	4	27,285	Norm	2.87	0.7	4	27,285
NHS Follower Ratings	2.85	0.85	4	220	NHS Follower Ratings	2.85	0.81	3.75	218
Idealised Influence (Behaviour)					Management-by-Exception (Active)				
NHS Leaders Self Ratings	2.9	0.57	3.25	308	NHS Leaders Self Ratings	1.93	0.85	4	306
Norm	2.77	0.72	4	27,285	Norm	1.67	0.88	4	27,285
NHS Follower Ratings	2.63	0.73	3.75	217	NHS Follower Ratings	2.05	0.92	4	216
Idealised Influence (Total)					Management-by-Exception (Passive)				
NHS Leaders Self Ratings	2.85	0.47	2.37	304	NHS Leaders Self Ratings	0.95	0.53	3.25	308
NHS Follower Ratings	2.74	0.72	3.88	218	Norm	1.03	0.75	4	27,285
Inspirational Motivation					NHS Follower Ratings	0.89	0.74	3.75	220
NHS Leader Self Ratings	3.08	0.56	3	309	Transactional Leadership (Total)				
Norm	2.92	0.76	4	27,285	NHS Leaders Self Ratings	1.97	0.41	2.42	305
NHS Follower Ratings	2.96	0.76	4	220	NHS Follower Ratings	1.91	0.45	2.33	220
Intellectual Stimulation					Outcomes of Leadership				
NHS Leader Self Ratings	3.05	0.52	2.5	309	Extra Effort				
Norm	2.78	0.71	4	27,285	NHS Leader Self Ratings	2.79	0.59	3	303
NHS Follower Ratings	2.7	0.81	4	219	Norm	2.74	0.86	4	27,285
Individualised Consideration					NHS Follower Ratings	2.66	1	4	219
NHS Leader Self Ratings	3.31	0.47	2.67	309	Effectiveness				
Norm	2.85	0.78	4	27,285	NHS Leader Self Ratings	3.16	0.48	2.25	308
NHS Follower Ratings	2.67	0.77	3.67	219	Norm	3.07	0.72	4	27,285
Transformational Leadership (Total)					NHS Follower Ratings	3.13	0.84	3.75	219
NHS Leader Self Ratings	3.08	0.41	1.91	304	Satisfaction with Leadership				
NHS Follower Ratings	2.76	0.67	3.61	219	NHS Leader Self Ratings	3.29	0.5	2.5	289
					Norm	3.08	0.83	4	27,285
Laissez Faire Leadership					NHS Follower Ratings	3.14	0.97	3.5	220
NHS Leader Self Ratings	0.53	0.48	2.25	309	Outcomes of Leadership (Total)				
Norm	0.65	0.67	4	27,285	NHS Leader Self Ratings	3.09	0.45	2.25	286
NHS Follower Ratings	0.59	0.74	3.25	220	NHS Follower Ratings	2.22	0.64	2.63	220

8.10 LEADERS' POSITION IN THE NHS AND THEIR RATINGS: ANOVA TESTS

One-way ANOVA tests were conducted on all the constructs being investigated in this thesis to ascertain if the post level or position of the participants in the organisation has any impact on their leadership, emotional intelligence or social desirability scores. The following set of tables, indicate if there was any difference in the mean scores obtained. With respect to some of the variables, the ANOVA test yielded significant results implying that one's position in the organisation could impact on the above scores.

8.10.1 ANOVA RESULTS

Table 8.20: ANOVA Results for Leaders' Position in NHS

ANOVA/KRUSKAL-WALLIS TESTS FOR POSITION IN ORGANISATION										
Emotional Intelligence Questionnaire - ANOVA					Transformational Leadership - ANOVA					
Position in Organisation	n	Mean	Standard Deviation	F- Ratio	Significance	n	Mean	Standard Deviation	F- Ratio	Significance
Director	20	264.55	15.86	2.616	0.017	19	3.16	0.29	5.883	<0.001
Senior Management	102	265.77	15.01			100	3.05	0.4		
Manager	123	262.16	15.39			121	3.12	0.4		
Supervisor	15	266.47	14.41			15	3.2	0.4		
Staff	10	268.1	12.89			10	3.24	0.34		
Consultant	31	254.77	14.25			31	3.72	0.37		
Other	7	266.86	12.24			7	3.35	0.38		
Swinburne University Emotional Intelligence Test - ANOVA						Transactional Leadership - ANOVA				
Position in Organisation	n	Mean	Standard Deviation	F- Ratio	Significance	n	Mean	Standard Deviation	F- Ratio	Significance
Director	20	227	21.48	5.540	<0.001	19	2.29	0.45	3.766	0.001
Senior Management	101	227.4	18.79			101	1.9	0.34		
Manager	120	228	14.16			122	1.95	0.41		
Supervisor	15	236.73	20.54			15	1.81	0.51		
Staff	10	230.4	14.14			10	2.08	0.49		
Consultant	30	210.7	17.89			31	2.1	0.37		
Other	7	229.29	11.44			6	2.05	0.43		
Marlowe-Crowne Social Desirability Scale - ANOVA						Laissez Faire Leadership - ANOVA				
Position in Organisation	n	Mean	Standard Deviation	F- Ratio	Significance	n	Mean	Standard Deviation	F- Ratio	Significance
Director	20	17.4	5.26	1.259	0.277 (Not Significant)	20	0.68	0.56	1.39	0.217 (Not Significant)
Senior Management	100	19.56	4.92			102	0.48	0.41		
Manager	116	19.06	5.38			123	0.58	0.54		
Supervisor	15	19	4.8			15	0.4	0.4		
Staff	10	22.5	3.89			10	0.28	0.38		
Consultant	31	18.74	5.14			31	0.55	0.43		
Other	7	19.29	3.55			7	0.54	0.53		

Respondents were grouped according to their 'position in the organisation'. Table 8.20 indicates the number of items, mean and standard deviations of each group for

SUEIT, EIQ, TL, TrL, LFL and MCSDS. It also indicates the F-ratio and significance level of the ANOVA test for these variables. For the ANOVA tests, effect size has been determined by calculating the eta-squared value.

One way ANOVA results for SUEIT show a statistically significant difference between groups, $F(6, 296) = 5.540, p < 0.001$. The effect size was large with eta squared calculated at 0.1. Post hoc comparisons using Hochberg's GT test showed that *consultants* had SUEIT scores that were significantly lower than *directors* (mean difference = -16.3, $p = 0.02$), *senior managers* (mean difference = -16.7, $p < 0.001$), *managers* (mean difference = -17.31, $p < 0.001$), *supervisors* (mean difference = -26.03, $p < 0.001$) and *staff* (mean difference = -19.7, $p = 0.035$). SUEIT scores between the other groups were not significantly different.

One way ANOVA results for total EI scores revealed a statistically significant difference, $F(6, 297) = 2.616, p = 0.017$. The effect size calculated using eta squared was 0.05 and therefore displayed a medium effect. Post hoc comparisons using Hochberg's GT test indicated that *consultants* and *senior managers* differed significantly (mean difference = 11, $p = 0.009$) on total EI scores, with senior managers having higher EIQ ratings than senior managers. The other groups did not differ significantly from each other.

One way ANOVA results for TL exhibited a significance difference, $F(6, 296) = 5.883, p < 0.001$. The effect size was large with an eta squared value of 0.11. Hochberg's GT posttest revealed that *consultants* had a significantly higher mean TL score than all the other positional groups: *directors* (mean difference = -0.44, $p = 0.11$), *senior managers* (mean difference = -0.33, $p = 0.001$), *managers* (mean difference = -0.4, $p < 0.001$), *supervisors* (mean difference = -0.48, $p = 0.002$), *staff* (mean difference = -0.51, $p = 0.007$) and *others* (mean difference = -0.63, $p = 0.003$). There was no significant difference in the mean TL scores between the remaining groups or respondents.

One way ANOVA results for TrL scores displayed a statistically significant difference, $F(6, 297) = 3.766, p = 0.001$. Eta squared was 0.08 indicating a large effect size. Post hoc comparisons using Hochberg's GT test showed that *directors*

had TrL scores that were significantly higher than *senior managers* (mean difference = 0.39, $p = 0.002$), *managers* (mean difference = 0.34, $p = 0.011$) and *supervisors* (mean difference = 0.48, $p = 0.01$). TrL scores between the other groups were not significantly different.

One way ANOVA results indicated that there was no significant difference between the mean LFL, OL and MCSDS scores of respondents in different positions in the NHS (table 8.20).

The table (8.21) below summarises the key mean differences found between leaders in different positions, based on their self-ratings.

Table 8.21: Leaders Self-Ratings on Difference Based on Position in the Organisation

<i>Variables</i>	<i>Leadership Positions with Significant Differences</i>	<i>Effect Size</i>
SUEIT	Directors > Consultants Senior Managers > Consultants Managers > Consultants Supervisors > Consultants Staff > Consultants	Large
EQ	Senior Managers > Consultants	Medium
TL	Consultants > Directors Consultants > Senior Managers Consultants > Managers Consultants > Supervisors Consultants > Staff	Large
TrL	Directors > Senior Managers Directors > Managers Directors > Supervisors	Large
LFL	-	-
OL	-	-
MCSDS	-	-

Table 8.21: Follower-Ratings on Difference Based on Position in the Organisation

<i>Variables</i>	<i>Leadership Positions with Significant Differences</i>	<i>Effect Size</i>
SUEIT	Directors > Consultants Senior Managers > Consultants Managers > Consultants Supervisors > Consultants Staff > Consultants	Large
EIQ	Senior Managers > Consultants	Medium
TL	Consultants > Directors Consultants > Senior Managers Consultants > Managers Consultants > Supervisors Consultants > Staff	Large
TrL	Directors > Senior Managers Directors > Managers Directors > Supervisors	Large
LFL	-	-
OL	-	-
MCSDS	-	-

ANOVA tests were also conducted on follower-ratings of leaders SUEIT, EIQ, TL, TrL, LFL, OL scores to ascertain significant differences between leaders in different positions in the NHS. However, no significant difference was found in follower-ratings of leaders EI and leadership behaviour, based on their job level.

8.11 COMPARING GENDER – SELF-RATINGS AND FOLLOWER-RATINGS OF LEADERS: T-TEST

Independent samples *t* –tests examined if there were significant differences in the mean scores between male and female self-ratings of leaders (table 8.22) and follower-ratings of the leaders (table 8.23).

Table 8.22: Descriptive Statistics Based on Gender: Leader Self-Ratings

Table 8.22: Gender Mean Differences as per Leaders Self -Ratings											
Variable	N		Mean		Standard Deviation		t-statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size (Cohen's d)	Effect
	M	F	M	F	M	F					
SUEIT	98	208	219.91	229.87	20.42	15.49	-4.28	< 0.001*	152	0.58	Medium
EIQ	98	211	263.31	263.36	15.74	15.08	-0.03	0.98	307	0.21	Small
TL	97	207	2.98	3.12	0.43	0.39	-2.75	0.006*	302	0.35	Small
TrL	98	207	2.03	1.95	0.38	0.42	1.53	0.13	303	0.2	Negligible
LFL	98	211	0.6	0.5	0.49	0.48	1.76	0.08	307	0	Small
OL	91	195	3	3.13	0.43	0.45	-2.29	0.03*	284	0.29	Small
MCSDS	97	203	18.05	19.76	5.13	5.01	-2.75	0.006*	298	0.34	Small

* = indicates that the difference in male and female mean scores is significant

Table 8.23: Descriptive Statistics Based on Gender: Follower-Ratings

Gender Mean Differences as per Follower-Ratings of Leaders											
Variable	N		Mean		Standard Deviation		t-statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size (Cohen's d)	Effect
	M	F	M	F	M	F					
SUEIT	56	111	215.30	225.31	23.51	21.97	-2.71	0.007*	165	0.45	Medium
EIQ	68	152	266.49	264.88	26.14	28.07	0.69	0.4	218	0.1	Negligible
TL	67	152	2.65	2.80	0.67	0.67	-1.53	0.13	217	0.23	Small
TrL	68	152	1.84	1.94	0.5	0.43	-1.59	0.11	218	0.23	Small
LFL	68	152	0.6	0.59	0.75	0.73	0.03	0.98	218	0	Negligible
OL	68	152	2.15	2.26	0.6	0.66	-1.16	0.25	218	0.17	Small

* = indicates that the difference in male and female mean scores is significant

No significant difference was found between the mean scores of self-ratings of male and female respondents with respect to TrL, EIQ and LFL. However significant differences were found between male and female self-ratings of SUEIT, TL, OL and MCSDS(table 8.22). This has been explained below.

The result for TL showed that female respondents scored significantly higher than male respondents on TL with $t(303) = -2.752$, $p = .006$ (two-tailed), $d = 0.35$. The magnitude of the difference in the means (mean difference = -0.14, 95% CI: -0.23 to -0.04) was small ($d = 0.35$).

Data on 'Outcomes of Leadership' from the NHS sample displayed a significant difference between male and female respondents with female respondents having a higher mean where $t(284) = -2.287$, $p = 0.023$, $d = 0.29$. The magnitude of the effect (mean difference = -0.13, 95% CI: -0.24 to -0.02) was small ($d = 0.29$).

Data from the NHS also demonstrated a significant difference in the male and female mean scores of SUEIT. Female respondents had a significantly higher mean score than their male counterparts with $t(152) = -4.281$, $p < 0.001$, $d = 0.58$ (equal variances not assumed). The magnitude of difference in the means (mean difference = -9.966, 95% CI: -14.564 to -5.367) was medium ($d = 0.58$).

Data pertaining to the MCSDS also demonstrated a significant difference between the male and female respondents within the NHS sample. Female respondents scored higher $t(298) = -2.748$, $p = 0.006$, $d = 0.34$. The magnitude of difference in the means (mean difference = -1.712, 95% CI: -2.938 - -0.486) was small ($d = 0.34$).

Follower-ratings of leaders showed a significant difference in the male and female leaders SUEIT scores. No significant differences were reported by follower-ratings for the other variables. Female leaders were rated as having higher SUEIT scores $t(165) = -2.71$, $p = 0.007$, $d = 0.45$. The magnitude of mean difference (mean difference = 10.01, 95% CI: -2.72 - -17.28) was medium ($d = 0.45$).

8.12 CHAPTER CONCLUSION

This chapter has demonstrated that robust sample sizes have been obtained for both leader self-ratings and follower-ratings of the leaders. Superfluous missing data has been appropriately double-checked and filtered. Tests of homogeneity show that data obtained from the seven different NHS trusts are homogeneous and overall data normality has been established. Reliability and validity of all the instruments with the NHS data used in this investigation has been tested and confirmed. Descriptive statistics for demographics and all the variables/instruments have been presented in this chapter. Finally significant differences in the scores of leaders based on their position and gender has been presented as per leader self-ratings and follower-

ratings. This chapter concentrated on unaggregated data for followers. Chapter 10 presents results for aggregated follower-ratings per leader. The following chapter will analyse the data in terms of testing hypotheses and indicating which hypotheses have been supported and which have been refuted by leaders' self-ratings.

CHAPTER 9: DATA ANALYSIS: LEADER SELF-RATINGS (PHASE 1)

9.1 INTRODUCTION

This chapter analyses the data in terms of leader self-ratings and attempts to confirm or refute the hypotheses that have been argued pertaining to leaders' self-ratings only. This chiefly includes testing the correlation and predictive linkage between EI, leadership styles and leadership outcomes using the two different EI models. Hypotheses related to gender differences have also been tested here. In the interests of generating a comprehensive analysis, supplementary analyses have been conducted investigating the relationship between the two EI models employed in this thesis, incremental predictive validity of each EI model over the other and differences in leadership and OL scores across different EI levels when leaders are categorised into three groups based on their EI scores. Finally the influence of social desirability on the association between all the variables has been examined.

9.2 SUMMARY OF PHASE 1 HYPOTHESES

The following table (9.1) summarises the hypotheses of this study pertaining to self-report responses of leaders (phase 1) that have been argued earlier in chapter 6.

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Table 9.1: Phase 1 Hypotheses - Leaders' Self-Ratings

NO.	HYPOTHESES – PHASE 1
EMOTIONAL INTELLIGENCE AND FULL RANGE LEADERSHIP: SELF-RATINGS	
H 1.1	There will be a strong positive relationship between EI and TL.
H 1.2	There will be no statistically significant relationship between EI and TrL.
H 1.3	There will be no statistically significant relationship between EI and Laissez-Faire Leadership.
H 1.4	EI scores will predict TL.
OUTCOMES OF LEADERSHIP	
H 1.5	There will be a positive relationship between EI and OL.
H 1.6	There will be a positive relationship between TL and OL.
GENDER DIFFERENCES	
H 1.7	Female leaders will display higher TL than their male counterparts.
H 1.8	Female leaders will display higher levels of EI than their male counterparts.

9.3 HYPOTHESES TESTING

In this section, all the hypotheses pertaining to the responses of leaders only (not reporting staff), have been tested. Hypotheses that require taking into account the responses of reporting staff have been tested in chapter 11.

9.3.1 OVERALL EI AND FRL

First the hypotheses relating to overall EI scores and the key leadership styles featuring in the FRL model were examined.

Hypothesis 1.1: There will be a positive relationship between TL and overall Emotional Intelligence.

A highly significant, strong and positive relationship was also found between TL and overall EI as measured by the SUEIT ($r = 0.6, p < 0.001$).

Table 9.2 below shows the correlations between individual variables of TL and SUEIT. Almost all the TL and SUEIT items showed significant correlations with each other. The strength of these correlations ranged from being strong to weak. Most of the correlations were highly significant at $p < 0.01$; except for the correlations between idealised influence (attributes) and understanding emotions external, individualised consideration and emotions direct cognition which were significant at $p < 0.05$. The only items that did not correlate at all were idealised influence (attributes) and emotions direct cognition.

Table 9.2: Correlation Table for SUEIT and TL

Swinburne University Emotional Intelligence Test and Transformational Leadership						
	Total SUEIT	Emotional Recognition /Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TL Total	0.6*** n = 300	0.33*** n = 302	0.55*** n = 304	0.2** n = 303	0.54*** n = 301	0.4*** n = 303
Idealised Influence - A	0.37*** n = 300	0.13* n = 302	0.36*** n = 304	0.07 n = 303	0.4*** n = 301	0.3*** n = 303
Idealised Influence - B	0.44*** n = 303	0.27*** n = 305	0.35*** n = 308	0.27*** n = 307	0.35*** n = 304	0.21*** n = 307
Idealised Influence - Total	0.48*** n = 300	0.24*** n = 302	0.43*** n = 304	0.18** n = 303	0.44*** n = 301	0.32*** n = 303
Inspirational Motivation	0.52*** n = 304	0.3*** n = 306	0.45*** n = 309	0.17** n = 308	0.5*** n = 305	0.33*** n = 308
Intellectual Stimulation	0.45*** n = 304	0.27*** n = 306	0.4*** n = 309	0.17** n = 308	0.38*** n = 305	0.27*** n = 308
Individualised Consideration	0.47*** n = 304	0.25*** n = 306	0.47*** n = 309	0.12* n = 308	0.39*** n = 305	0.32*** n = 308
* $p < 0.05$, two tailed						
** $p < 0.01$, two tailed						
*** $p < 0.001$, two tailed						

Pearson's correlation coefficient also revealed a highly significant, positive correlation between TL and overall EI as measured by the EIQ ($r = 0.6, p < 0.001$).

Table 9.3 below presents the correlations between EIQ and TL variables. It can be seen that nearly all EIQ and TL items showed highly significant correlations ranging from being weak to strong. The only exceptions were intellectual stimulation and

intuitiveness, and individualised consideration and intuitiveness which did not correlate at all.

Table 9.3: Correlations for TL and EIQ

Emotional Intelligence Questionnaire and Transformational Leadership								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TL Total	0.61*** n = 304	0.4*** n = 304	0.35*** n = 304	0.42*** n = 304	0.57*** n = 304	0.5*** n = 304	0.18** n = 304	0.28*** n = 304
Idealised Influence - A	0.46*** n = 304	0.27*** n = 304	0.28*** n = 304	0.3*** n = 304	0.35*** n = 304	0.42*** n = 304	0.18** n = 304	0.3*** n = 304
Idealised Influence - B	0.4*** n = 308	0.18** n = 308	0.16* n = 308	0.34*** n = 308	0.38*** n = 308	0.31*** n = 308	0.2** n = 308	0.21*** n = 308
Idealised Influence - Total	0.5*** n = 304	0.27*** n = 304	0.27*** n = 304	0.38*** n = 304	0.44*** n = 304	0.44*** n = 304	0.22*** n = 304	0.31*** n = 304
Inspirational Motivation	0.51*** n = 309	0.39*** n = 309	0.3*** n = 309	0.37*** n = 309	0.41*** n = 309	0.44*** n = 309	0.17** n = 309	0.21*** n = 309
Intellectual Stimulation	0.44*** n = 309	0.29*** n = 309	0.25*** n = 309	0.28*** n = 309	0.5*** n = 309	0.34*** n = 309	0.1 n = 309	0.17** n = 309
Individualised Consideration	0.47*** n = 309	0.31*** n = 309	0.3*** n = 309	0.32*** n = 309	0.49*** n = 309	0.38*** n = 309	0.07 n = 309	0.2*** n = 309
* p < 0.05, two tailed								
** p < 0.01, two tailed								
*** p < 0.001, two tailed								

Taking all the above results it may be concluded that total EI correlated significantly with total TL. With very few exceptions all the TL items displayed significant correlations with EI items on the SUEIT and the EIQ. Therefore, H1.1 has been supported.

Hypothesis 1.2: There will not be any statistically significant relationship between Transactional Leadership and Emotional Intelligence.

In the first instance EI was measured using the SUEIT. The total EI score and the total TrL did not demonstrate any significant correlation ($r = 0.05$, $p = 0.42$) supporting the hypothesis that EI and TrL will not show any significant correlation.

Yet, a further analysis of the SUEIT and TrL inter-item correlations revealed results contrary to the postulation that EI and TrL will be unrelated (Table 9.4). Total SUEIT displayed a moderate and highly significant positive correlation with the TrL factor contingent reward ($r = 0.4$, $p < 0.001$). Highly significant positive correlations were also found between the five elements comprising SUEIT and contingent reward. Some significant negative correlations were also discovered between

individual SUEIT and TrL components. Emotional recognition/expression displayed a significant and negative correlation with management-by-exception (active) ($r = -0.13, p = 0.019$). Total SUEIT showed a highly significant, negative and weak correlation with management-by-exception (passive) ($r = 0.2, p < 0.001$). Weak but highly significant negative correlations were also observed between SUEIT elements understanding emotions external ($r = -0.2, p < 0.001$) emotional management ($r = -0.23, p < 0.001$) emotional control ($r = -0.22, p < 0.001$) and management-by-exception (passive).

Table 9.4: Correlations of SUEIT and TrL

Swinburne University Emotional Intelligence Test and Transactional Leadership						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TrL Total	0.05 n = 300	-0.03 n = 302	0.09 n = 305	0.001 n = 304	0.05 n = 301	0.03 n = 304
Contingent Reward	0.4*** n = 304	0.22*** n = 306	0.37*** n = 309	0.11* n = 308	0.36*** n = 305	0.26*** n = 308
Management by Exception - Active	-0.07 n = 301	-0.13* n = 303	-0.003 n = 306	-0.08 n = 305	-0.03 n = 302	0.01 n = 305
Management by Exception - Passive	-0.2*** n = 303	-0.07 n = 305	-0.2*** n = 308	0.02 n = 307	-0.23*** n = 304	-0.22*** n = 307
* $p < 0.05$, two tailed						
** $p < 0.01$, two tailed						
*** $p < 0.001$, two tailed						

When EI was measured by the EIQ, H1.2 was supported with respect to total TrL and total EI scores ($r = 0.1, p = 0.075$) as no significant correlation was found.

However, the inter-item correlations (table 9.5), did not fully support the above hypothesis. Table 9.5 shows that the total TrL score did not correlate significantly with most of the EIQ components except interpersonal sensitivity ($r = 0.12, p = 0.033$) and conscientiousness ($r = 0.24, p < 0.001$). Furthermore, contrary to the hypothesis, all the EIQ components except intuitiveness displayed weak to moderate but highly significant positive correlations with the TrL factor of contingent reward.

The EIQ component conscientiousness displayed a highly significant, positive correlation with the TrL factor management-by-exception (active) ($r = 0.15$, $p = 0.007$). The remaining EIQ items did not significantly correlate with management-by-exception (active).

Another interesting contradiction to the hypothesis was found in highly significant negative correlations between total EIQ and the TrL factor management-by-exception (passive). The individual EIQ components also exhibited highly significant negative correlations with management-by-exception (active) except intuitiveness and conscientiousness, which did not correlate significantly with management-by-exception (passive) at all.

Table 9.5: Correlations of TrL Subscales and EIQ

Emotional Intelligence Questionnaire and Transactional Leadership								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TrL Total	0.1 n = 305	0.04 n = 305	0.06 n = 305	0.06 n = 305	0.12* n = 305	0.01 n = 305	-0.04 n = 305	0.24*** n = 305
Contingent Reward	0.4*** n = 309	0.26*** n = 309	0.24*** n = 309	0.33*** n = 309	0.35*** n = 309	0.31*** n = 309	0.06 n = 309	0.25*** n = 309
Management by by Exception - Active	0.02 n = 306	-0.01 n = 306	-0.006 n = 306	0.01 n = 306	0.06 n = 306	-0.05 n = 306	-0.08 n = 306	0.15** n = 306
Management by by Exception - Passive	-0.21*** n = 308	-0.17** n = 308	-0.12* n = 308	-0.23*** n = 308	-0.18** n = 308	-0.21*** n = 308	-0.03 n = 308	0.03 n = 308
* p < 0.05, two tailed								
** p < 0.01, two tailed								
*** p < 0.001, two tailed								

Based on the above results, it may be concluded that the total EI and total TrL did not display any significant correlation, thereby supporting the above hypothesis (table 9.5). However, if the EI and TrL individual component correlations are taken into account, this hypothesis received only partial support.

Hypothesis 1.3: There will be no statistically significant relationship between EI and Laissez-Faire Leadership.

Table 9.6: Correlations for SUEIT and LF Leadership

SUEIT and Laissez Faire Leadership – Pearson’s Correlation						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
LFL	-0.25***	-0.14*	-0.26***	0.15**	-0.27***	-0.33***
n = 304						
* $p < 0.05$, two-tailed						
** $p < 0.01$, two-tailed						
*** $p < 0.001$, two-tailed						

The first set of results (using the SUEIT to measure EI) found a highly significant negative correlation between LF and EI ($\rho = -0.25$, $p < 0.001$) Table 9.6 shows that LF leadership also displayed weak to moderate negative correlation with EI factors, when measured by the SUEIT. The only exception was the correlation with emotions direct cognition, which was significant and positive.

Table 9.7: Correlations for EIQ and LFL

EIQ and Laissez Faire Leadership – Pearson’s Correlation								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
LFL	-0.4***	-0.31***	-0.3***	-0.38***	-0.29***	-0.28***	-0.04	-0.16**
n = 309								
* $p < 0.05$, two-tailed								
** $p < 0.01$, two-tailed								
*** $p < 0.001$, two-tailed								

Similarly a weak but highly significant negative correlation was obtained for LF and total EI ($\rho = -0.392$, $p < 0.001$) where EI was measured by the EIQ.

Table 9.7 shows that all the EIQ variables displayed highly significant negative correlations with LF leadership except intuitiveness, which showed a non-significant negative correlation. Strengths of correlations ranged from being weak to moderate.

Overall, the above results show an inverse relationship between LF leadership and EI components. Therefore, H1.3 is refuted.

Hypothesis 1.4: Emotional Intelligence scores will predict TL.

Hierarchical linear regression was conducted to examine the predictive association between EI and TL. Preliminary analyses were conducted to ensure that assumptions of normality, linearity, multicollinearity and homoscedasticity were not violated [appendix 13, appendix 15 - 16]. EI has been entered as the predictor variable in two distinct regression models, one with SUEIT and one with the EIQ model.

In hierarchical regression, independent variables are entered in steps to control for the effect of the variables entered first. Here, for both regression models; in the first step, the block of variables that have been entered are 'gender' and 'social desirability' as both these variables showed low yet significant correlations with TL (Pallant, 2007). Age did not correlate significantly with TL and therefore was not entered in the regression analysis (Pallant, 2007). This first step statistically controlled for the possible effects of gender and social desirability. The EI model (SUEIT or EIQ) comprised the second block and was entered in the second step.

As shown in table 9.8.i & ii; gender and MCSDS, which were entered in step 1, accounted for 7.3% (0.073×100) of the variance in TL. In the regression model investigating the predictive power of SUEIT (table 9.8.i); after entering SUEIT in step 2, all the three variables collectively explained 36.7% of the variance in TL, $F(3, 292) = 56.455, p < 0.001$. SUEIT accounted for 29.4% of the variance in TL, after controlling for gender and social desirability, $R^2 \text{ change} = 0.294, F \text{ change}(1, 292) = 135.509, p < 0.001$.

Table 9.8.ii shows the regression model examining the predictive power of EIQ. After entering EIQ in step 2, gender, MCSDS and EIQ collectively explained 39.3% of the variance in TL, $F(3, 292) = 62.991, p < 0.001$. EIQ accounted for 32.0% of the variance in TL, after controlling for gender and social desirability, $R^2 \text{ change} = 0.32, F \text{ change}(1, 292) = 153.679, p < 0.001$.

The above results indicates that the contribution of EIQ in predicting TL is stronger than SUEIT.

Table 9.8.i: Summary of Hierarchical Regression Analysis for Variables Predicting TL – EI Measured By SUEIT

Summary of Hierarchical Regression Analysis for SUEIT Predicting TL					
Variable	B	SE B	Beta	R Square Change	Significance
Step 1					
Gender	0.105	0.05	0.121	0.073	0.034
MCSDS	0.018	0.005	0.224		<0.001
Step 2					
Gender	-0.006	0.042	-0.006	0.294	0.895
MCSDS	0.005	0.004	0.059		0.23
Swinburne University Emotional Intelligence Test	0.008	0.001	0.345		<0.001

Table 9.8.ii: Summary of Hierarchical Regression Analysis for Variables Predicting TL – EI Measured By EIQ

Summary of Hierarchical Regression Analysis for EIQ Model Predicting TL					
Variable	B	SE B	Beta	R Square Change	Significance
Step 1					
Gender	0.105	0.05	0.121	0.073	0.034
MCSDS	0.018	0.005	0.224		<0.001
Step 2					
Gender	0.142	0.04	0.163	0.320	0.001
MCSDS	-0.004	0.004	-0.047		0.357
Emotional Intelligence Test	0.017	0.001	0.625		<0.001

Therefore these results confirm that EI (both as measured by the SUEIT and the EIQ) can significantly predict TL. Therefore, H1.4 has been fully supported in this study.

9.3.2 RELATIONSHIP BETWEEN EI, TL AND OUTCOMES OF LEADERSHIP

H 1.5: There will be a positive relationship between Emotional Intelligence and Outcomes of Leadership.

The MLQ along with measuring the FRL also has a few additional items aimed at examining leadership success. Here, success is accounted for by considering how frequently leaders are perceived to be motivating, effective at interpersonal interactions at varying levels within the organisation and how satisfied members are with the leaders' working style (Avolio & Bass, 2004). These factors of 'extra effort', 'effectiveness' and 'satisfaction with the leadership' have been collectively referred to as 'Outcomes of Leadership' (OL). This section examines the potential association between EI and OL.

Table 9.9 exhibits the correlation results for EI as measured by the SUEIT and OL. Total SUEIT and total OL revealed a positive, strong, highly significant correlation ($r = 0.55, p < 0.001$). All the SUEIT factors displayed highly significant, positive correlations with all the OL factors except emotions direct cognition, which did not show any significant correlation with any of the OL subscales (table 9.9).

Table 9.9: Correlations between SUEIT and OL

Swinburne University Emotional Intelligence Test and Outcomes of Leadership						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
OL Total	0.55*** n = 284	0.3*** n = 285	0.56*** n = 286	0.03 n = 286	0.52*** n = 284	0.42*** n = 285
Extra Effort	0.46*** n = 299	0.22*** n = 301	0.48*** n = 303	0.09 n = 302	0.43*** n = 300	0.3*** n = 302
Effectiveness	0.44*** n = 303	0.26*** n = 305	0.44*** n = 308	-0.01 n = 307	0.42*** n = 304	0.36*** n = 307
Satisfaction	0.52*** n = 286	0.28*** n = 287	0.48*** n = 289	0.02 n = 289	0.5*** n = 286	0.47*** n = 288
* p < 0.05, two tailed						
** p < 0.01, two tailed						
*** p < 0.001, two tailed						

Table 9.10 presents the correlation results for EI as measured by the EIQ and OL. Total EIQ and OL displayed a highly significant, positive, moderate to strong correlation ($r = 0.62, p < 0.001$). All the EIQ subscales showed significant positive correlations with all the OL subscales.

Table 9.10: Correlations of EIQ and OL

Emotional Intelligence Questionnaire and Outcomes of Leadership								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
OL Total	0.62*** n = 286	0.4*** n = 286	0.43*** n = 286	0.47*** n = 286	0.51*** n = 286	0.48*** n = 286	0.2** n = 286	0.3*** n = 286
Extra Effort	0.43*** n = 303	0.25*** n = 303	0.25*** n = 303	0.37*** n = 303	0.31*** n = 303	0.39*** n = 303	0.21*** n = 303	0.18** n = 303
Effectiveness	0.56*** n = 308	0.36*** n = 308	0.37*** n = 308	0.44*** n = 308	0.49*** n = 308	0.43*** n = 308	0.13* n = 308	0.33*** n = 308
Satisfaction	0.61*** n = 289	0.43*** n = 289	0.46*** n = 289	0.39*** n = 289	0.56*** n = 289	0.43*** n = 289	0.14** n = 289	0.27*** n = 289
* p < 0.05, two tailed								
** p < 0.01, two tailed								
*** p < 0.001, two tailed								

Based on the results above (table 9.9 and 9.10), on balance it is concluded that H1.5 has been supported in this study.

Hypothesis 1.6: There will be a positive relationship between TL and Outcomes of Leadership.

Table 9.11: Correlations between TL and OL

Correlations between TL and OL				
	OL	Extra Effort	Effectiveness	Satisfaction
TL	0.76*** n = 285	0.62*** n = 301	0.67*** n = 303	0.67*** n = 287
Idealised Influence - A	0.56*** n = 287	0.46*** n = 301	0.46*** n = 303	0.45*** n = 287
Idealised Influence - B	0.51*** n = 285	0.45*** n = 302	0.46*** n = 307	0.39*** n = 288
Idealised Influence - Total	0.63*** n = 285	0.54*** n = 301	0.55*** n = 303	0.5*** n = 287
Inspirational Motivation	0.67*** n = 286	0.59*** n = 303	0.56*** n = 308	0.55*** n = 289
Intellectual Stimulation	0.56*** n = 286	0.43*** n = 303	0.5*** n = 308	0.51*** n = 289
Individualised Consideration	0.57*** n = 286	0.44*** n = 303	0.49*** n = 308	0.56*** n = 289
*p < 0.05, two-tailed				
**p < 0.01, two-tailed				

*** $p < 0.001$, two-tailed

Highly significant, positive correlations were found between overall TL and OL. Item-wise correlations also showed strong positive correlations between all the TL and OL factors. Therefore H1.6 has been fully supported (table 9.11).

9.3.3 GENDER DIFFERENCES IN TL

Hypothesis 1.7: Female leaders will display higher TL than their male counterparts.

A t-test compared the mean overall TL scores between male and female respondents (table 9.12). Female respondents had a higher mean TL score than their male counterparts [$t(302) = -2.75, p = .006$ (two-tailed), $d = 0.35$]. The magnitude of the difference in the means (mean difference = -0.14, 95% CI: -0.23 to -0.04) was small ($d = 0.35$). Therefore, it may be concluded that H1.7, was supported.

Table 9.12: TL T-Test Comparing Gender Scores

T-TEST COMPARING MEAN DIFFERENCE OF TL BETWEEN MALE & FEMALE RESPONDENTS											
VARIABLE	n		Mean		Standard Deviation		t statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size Cohen's d	Effect
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE					
TL	97	207	2.98	3.12	0.43	0.39	-2.75	0.006*	302	0.35	Small

* indicates that the difference in male and female mean scores is significant

In order to examine the gender differences in scores for each of the TL factors, a multivariate analysis of variance (MANOVA) test was conducted. A MANOVA enables ascertaining the mean difference between different groups on more than one dependent variable simultaneously.

Conducting a MANOVA also facilitates capturing any correlations between the dependent variables, which would not be possible in individual t -tests and ANOVAs. Therefore multiple t -tests and ANOVAs may inflate the error rate and increase the risk of a type I error. Hence, where necessary assumptions have not been seriously violated, a MANOVA test has been conducted, instead of individual t -tests on each factor (Tabachnick & Fidell, 2007, Field, 2005) to ascertain gender differences on the individual scale scores.

A MANOVA works best where the independent variables are moderately correlated. As the TL scales display moderate correlation with each other, therefore, to prevent a Type I error, a MANOVA has been conducted instead of individual *t*-tests.

For MANOVA, the most commonly reported multivariate statistic is Wilks' Lambda. When only two independent variables are being compared, "F-tests for Wilks' Lambda, Hotelling's Trace and Pillai's Trace are identical" (Pallant, 2007). In this case, only two groups are being compared, therefore any multivariate statistic may be considered (Pallant, 2007). Wilks' Lambda is recommended for general use by Tabachnik and Fidell (2007). In case of serious violations of assumptions, different multivariate tests may be suitable, however this is not the case here (Pallant, 2007). Therefore, as this is the most commonly reported statistic; for ease of reporting and comparability, Wilks' Lambda has been reported here (Tabachnik & Fidell, 2007).

A one-way between-groups multivariate analysis of variance was conducted to investigate the gender differences in the TL factors (comprising idealised influence attributes, idealised influence behaviour, intellectual stimulation, inspirational motivation and individualised consideration). The TL factors were included in the analysis as dependent variables. The independent variable was gender. Assumptions of normality (appendix 13), linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices and multicollinearity were checked to ensure no serious violations (appendix no. 17). There was a statistically significant difference between males and females on TL components, $F(5, 293) = 5.811, p < 0.001$; Wilks' Lambda = 0.910; partial eta squared = 0.09. On reviewing the results for the dependent variables individually, the variable that achieved statistical significance, using a Bonferroni adjusted alpha of (0.05/5) 0.01 was individualised consideration (TL) [$F(1, 297) = 23.263, p < 0.001$, partial eta squared = 0.073]. This result shows that gender impacted on the variance in individualised consideration by 7.3% (negligible effect). The mean scores indicated that female respondents engaged in higher levels of individualised consideration (mean = 3.4, standard deviation = 0.03) than males (mean = 3.13, standard deviation = 0.05). Based on this MANOVA result, it may be argued that the mean difference in the TL scores of male and female

respondents was attributed to, mostly by the gender difference in individualised consideration. Table 9.13 summarises this significant result below.

Table 9.13: Significant Result for TL MANOVA

Variable	F-test	Significance (p)	Degrees of Freedom	Partial Eta Squared	Variance Explained %	Effect Size	Mean		Standard Deviation		Group with Higher Scores
							Male	Female	Male	Female	
Individual Consideration	23.263	<0.001	1, 297	0.073	7.3	Negligible	3.13	3.4	0.05	0.03	Females
<i>The above result is significant.</i>											

9.3.4 GENDER DIFFERENCES IN EMOTIONAL INTELLIGENCE

Hypothesis 1.8: Female leaders will display higher levels of Emotional Intelligence than their male counterparts.

The differences between the total EI means were examined with the help of two-tailed t-tests. when total EI was measured using the SUEIT, the t-test showed that female respondents had a highly significant higher mean overall EI score than their male counterparts [$t(152) = -4.281, p < 0.001, d = 0.58$ (equal variances not assumed)] (table 9.14). The magnitude of difference in the means (mean difference = -9.966, 95% CI: -14.564 to -5.367) was medium ($d = 0.58$) (table 9.14).

However, no significant difference was found between male and female overall EI scores, when EI was measured by the EIQ (table 9.14).

Table 9.14: T-Test of EI Scores

T-TEST - GENDER DIFFERENCE IN TOTAL EI SCORES											
VARIABLE	n		Mean		Standard Deviation		t statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size Cohen's d	Effect
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE					
SUEIT	98	206	219.91	229.87	20.42	15.49	-4.281	<0.001*	152	0.58	Medium
EIQ	98	211	263.31	263.36	15.74	15.08	-0.029	0.977	307	0	Small

* indicates that the difference in male and female mean scores is significant

MANOVA tests were conducted to investigate if there were any significant differences between the individual factors of the SUEIT and EIQ. While SUEIT and EIQ arguably measure the same construct (EI); however, they have been argued to represent two different streams of EI. Therefore, while the SUEIT and EIQ items do moderately correlate with each other; separate MANOVA tests are being conducted on them. In addition, it is also recommended that the number of dependent variables should be less than 10 to achieve meaningful MANOVA results (Field, 2005). Stevens (1980 as cited in Field, 2005) advises using less than 10 dependent variables unless the sample size is large. Field (2005) also cautions against including all the dependent variables together unless there is a strong theoretical or empirical foundation. “The point to take on board here is not to include lots of dependent

variables in a MANOVA just because you have measured them” (Field, 2005). Combining SUEIT and EIQ in the same analysis would lead to more than 10 dependent variables. Conducting separate MANOVA tests on SUEIT and EIQ will also help comparison with other studies as these two models have not been studied together elsewhere. Therefore on both theoretical and statistical grounds separate MANOVA tests have been conducted to examine the gender differences in the SUEIT and EIQ components.

9.3.4.1 GENDER DIFFERENCES IN SUEIT FACTORS

A one-way between-groups multivariate analysis of variance was conducted to investigate the gender differences in the SUEIT factors (comprising emotional recognition/expression, understanding emotions external, emotions direct cognition, emotional management and emotional control). The SUEIT factors were included in the analysis as dependent variables. The independent variable was gender. Assumptions of normality (appendix 13), linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, multicollinearity and equality of variances for SUEIT were checked to ensure no serious violations had occurred (appendix no. 17).

The Levene’s test result showed that the assumption of equality of variance was violated for three out of five variables – emotional recognition/expression, understanding emotions external and emotions direct cognition. In the event of such a violation of assumption, it is recommended that a more conservative alpha level is used in determining the significance for those variables in the univariate F-tests. According to Tabachnik and Fidell (2007), an alpha level of 0.025 or 0.01 is more desirable than the conventional 0.5 level.

MANOVA results revealed a statistically significant difference between males and females on the combined dependent variables (SUEIT variables), $F(5, 290) = 7.69, p < 0.001$; Wilks’ Lambda = 0.883; partial eta squared = 0.18. Separate consideration of the univariate results for the dependent variables revealed that, using a Bonferroni adjusted alpha level of 0.01, the SUEIT components which achieved statistical

significance on gender differences were emotional recognition/expression [$F(1, 299) = 10.17, p = 0.002, \text{partial eta squared} = 0.033$], understanding emotions external [$F(1, 299) = 31.63, p < 0.001, \text{partial eta squared} = 0.097$] and emotional management [$F(1, 299) = 6.56, p = 0.011, \text{eta squared} = 0.022$].

Out of the above three SUEIT factors, on the Levene's test emotional recognition/expression and understanding emotions external had achieved significant scores thereby violating the assumption of equality of variances. As mentioned earlier, a more conservative alpha level is recommended for these variables. Therefore, these variables were also examined using a more stringent original alpha level of 0.025^{27} to which Bonferroni correction was applied ($0.025/5$) leading to a significance alpha level of 0.005. Employing this more conservative alpha level of 0.005, both emotional recognition/expression [$F(1, 299) = 10.17, p = 0.002, \text{partial eta squared} = 0.033$] and understanding emotions external [$F(1, 299) = 31.63, p < 0.001, \text{partial eta squared} = 0.097$] still achieved significant scores; implying significant gender differences on these variables.

The MANOVA results show that gender impacted on the variance in emotional recognition/expression by 3.3%, understanding emotions external by 9.7% and emotional management by 2.2%. The magnitude of these effects may be interpreted as negligible (Thalheimer & Cook, 2002).

Females (mean = 38.7, standard deviation = 4.85) displayed significantly higher levels of emotional recognition/expression than males (mean = 36.67, standard deviation = 5.58). Similarly on understanding emotions external female scores (mean = 78.6, standard deviation = 6.12) were higher than the males (mean = 73.88, standard deviation = 7.9). Likewise, on emotional management females (mean =

²⁷ If a more conservative starting alpha of 0.01 had been used, after applying Bonferroni correction, the new alpha level would have been 0.002. We could have considered our results significant, only if the significance level for the univariate F -test was less than 0.002. In that case emotional recognition/expression which revealed significant differences at the level of $p = 0.002$, would have been excluded and might have led to a Type II error. Therefore, the conservative final alpha of 0.005 is considered more appropriate here, to ensure prevention of a Type I or Type II error.

44.08, standard deviation = 4.22) demonstrated higher scores than their male counterpart (mean = 32.97, standard deviation = 4.98).

The following table (9.15) summarises the above MANOVA results for the SUEIT variables that achieved significant scores.

Table 9.15: SUEIT MANOVA Comparing Gender Differences

Variable	F-test	Significance (p)	Degrees of Freedom	Partial Eta Squared	Variance Explained %	Effect Size	Mean		Standard Deviation		Group with Higher Scores
							Male	Female	Male	Female	
Emotional Recognition/Expression	10.17	0.002	1, 299	0.033	3.3	Negligible	36.67	38.7	5.58	4.85	Females
Understanding Emotions External	31.63	<0.001	1, 299	0.097	9.7	Negligible	73.88	78.6	7.9	6.12	Females
Emotional Management	6.56	0.011	1, 299	0.022	2.2	Negligible	42.65	44.08	4.98	4.22	Females

All the above results are significant.

Therefore, on balance, EI measured by the SUEIT instrument supported H1.8.

9.3.3.2 GENDER DIFFERENCES IN EIQ FACTORS

A one-way between-groups multivariate analysis of variance was conducted to investigate the gender differences in the EIQ factors (comprising self awareness, emotional resilience, motivation, interpersonal sensitivity, influence, intuitiveness and conscientiousness). The EIQ factors were included in the analysis as dependent variables. The independent variable was gender. Assumptions of normality (appendix 13), linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, multicollinearity and equality of variances were checked to ensure no serious violations (appendix no. 17). The MANOVA revealed no statistically significant difference in male and female scores on any of the EIQ factors. The multivariate tests were insignificant, $F(7, 293) = 1.669, p = 0.116$; Wilks' Lambda = 0.962, partial eta squared = 0.038. This indicated that there was no gender difference in the mean scores on the different EIQ variables. A closer inspection of the univariate F-tests, also did not reveal any significant differences. Therefore, EI as measured by the EIQ, refuted H1.8.

9.4 SUPPLEMENTARY ANALYSIS

This section highlights additional data analysis that was conducted and the results that were discovered.

9.4.1 ASSOCIATION BETWEEN SUEIT AND EIQ

The association between EI as measured by the SUEIT and EI as measured by EIQ was explored here. The aim was to investigate if there was a linkage between the two instruments measuring EI and the nature of overlap or inter-relation between them. This thesis argues that the SUEIT is a self-report measure of EI measuring aspects that strongly reflect the ability model of EI and EIQ reflects the mixed-model of EI. Exploring these two instruments in relation to each other can draw light on the similarities and dissimilarities of the two psychometric instruments.

Table 9.16 shows the correlation figures between the SUEIT and EIQ. Total SUEIT and total EIQ showed a highly significant, positive, moderate to strong correlation ($r = 0.62, p < 0.001$). Most of the individual scales also displayed significant or highly significant positive inter-correlations. The strength of the correlations ranged from being moderately strong to weak. However, interestingly, the SUEIT scale - emotions direct cognition displayed highly significant, negative correlations with EIQ subscales emotional resilience ($r = -0.19, p = 0.001$) and conscientiousness ($r = -0.17, p = 0.002$). Emotions direct cognition showed weak positive correlations with interpersonal sensitivity ($r = 0.12, p = 0.033$) and intuitiveness ($r = 0.24, p > 0.001$), but did not correlate with the remaining EIQ scales. The SUEIT component emotional recognition/expression also did not correlate significantly with EIQ scales of intuitiveness and conscientiousness.

Table 9.16: Correlations between SUEIT and EIQ

Swinburne University Emotional Intelligence Test and Emotional Intelligence Questionnaire						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
Total EIQ	0.62*** n = 304	0.33*** n = 306	0.5*** n = 309	0.01 n = 308	0.65*** n = 305	0.65*** n = 308
Self Awareness	0.46*** n = 304	0.18** n = 306	0.32*** n = 309	-0.04 n = 308	0.58*** n = 305	0.62*** n = 304
Emotional Resilience	0.39*** n = 304	0.15** n = 306	0.27*** n = 309	-0.19** n = 309	0.57*** n = 305	0.66*** n = 308
Motivation	0.39*** n = 304	0.24*** n = 306	0.41*** n = 309	-0.01 n = 308	0.33*** n = 305	0.32*** n = 308
Interpersonal Sensitivity	0.52*** n = 304	0.38*** n = 306	0.43*** n = 309	0.12* n = 308	0.44*** n = 305	0.4*** n = 308
Influence	0.55*** n = 304	0.31*** n = 306	0.5*** n = 309	0.1 n = 308	0.53*** n = 305	0.42*** n = 308
Intuitiveness	0.26*** n = 304	0.08 n = 306	0.15** n = 309	0.24*** n = 308	0.27*** n = 305	0.15** n = 308
Conscientiousness	0.14* n = 304	0.09 n = 306	0.18** n = 309	-0.17** n = 308	0.12* n = 305	0.25*** n = 308
* p < 0.05, two tailed						
** p < 0.01, two tailed						
*** p < 0.001, two-tailed						

9.4.2 INCREMENTAL PREDICTIVE ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE MODELS AND TL

Tables 9.8.i and 9.8.ii earlier reported the predictive validity of the two EI models in relation to TL. Both the Swinburne University Model of EI and the Higgs and Dulewicz Model of EI displayed a significant predictive association with TL. This section attempts to establish the incremental validity of one EI model over the other in predicting TL behaviour. First the incremental predictive validity of EIQ (over SUEIT) has been examined; followed by examining the validity of SUEIT (over EIQ).

9.4.2.1 INCREMENTAL PREDICTION OF TL BY EIQ OVER SUEIT

Table 9.17 shows the hierarchical regression results investigating the incremental predictive validity of the Higgs and Dulewicz Model of EI over the Swinburne University Model of EI. Step 1 controlled for gender and MCSDS which accounted for 7.3% of the variance in TL. After SUEIT was entered in step 2, the variance in TL explained by the resultant block (gender, MCSDS and SUEIT) was 36.7%, $F(3,$

292) = 56.455, $p < 0.001$. SUEIT explained 29.4% variance in TL, R squared change = 0.294, F change (1, 292) = 135.509, $p > 0.001$. EIQ was entered in step 3, which led to the model as a whole accounting for 45.9%, F (4, 291) = 61.681, $p < 0.001$. EIQ explained an incremental variance of 9.2% in TL, R squared change = 0.092, F change (1, 291) = 49.329, $p < 0.001$. In the final model, only SUEIT and EIQ demonstrated a statistically significant variance with EIQ recording a higher beta value (beta = 0.416, $p < 0.001$) than SUEIT (beta = 0.345, $p < 0.001$). This calculation shows that EIQ predicted 9.2% incremental variance in TL over and above SUEIT.

Table 9.17: Summary of Hierarchical Regression Analysis for EI Models Predicting TL – Incremental Prediction of EIQ over SUEIT

Summary of Hierarchical Regression Analysis for EI Models Predicting TL: Incremental Prediction of EIQ over SUEIT					
Variable	B	SE B	Beta	R Square Change	Significance
Step 1					
Gender	0.105	0.05	0.121	0.073	0.034
MCSDS	0.018	0.005	0.224		<0.001
Step 2					
Gender	-0.006	0.042	-0.006	0.294	0.895
MCSDS	0.005	0.004	0.059		0.23
Swinburne University Emotional Intelligence Test	0.008	0.001	0.345		<0.001
Step 3					
Gender	0.064	0.04	0.074	0.092	0.112
MCSDS	-0.004	0.004	-0.053		0.27
Swinburne University Emotional Intelligence Test	0.008	0.001	0.345		<0.001
Emotional Intelligence Test	0.011	0.002	0.416		<0.001

9.4.2.2 INCREMENTAL PREDICTION OF TL BY SUEIT OVER EIQ

Table 9.18 investigates the incremental predictive validity of TL by SUEIT, over and above EIQ. As in the above analysis, step 1 controlled for gender and MCSDS which accounted for 7.3% variance in TL. EIQ was entered in step 2, resulting in this block (gender, MCSDS and EIQ) collectively accounting for 39.3% variance in TL, F (3, 292) = 62.991, $p < 0.001$. EIQ explained 32% variance in TL, R squared change = 0.320, F change (1, 292) = 153.679, $p < 0.001$. In step 3, SUEIT was entered to

ascertain the incremental variance in TL, explained by SUEIT over and above EIQ. On entering SUEIT, the model as a whole explained 45.9% of the variance in TL (as in section 9.4.2.1); $F(4, 291) = 61.681, p < 0.001$. As in the regression analysis in section 9.4.2.1 in the final model, only SUEIT and EIQ demonstrated a statistically significant variance with EIQ recording a higher beta value (beta = 0.416, $p < 0.001$) than SUEIT (beta = 0.345, $p < 0.001$). The SUEIT explained an additional 6.6% variance in TL, over and above the EIQ; $F \text{ change}(1, 291) = 35.454, p < 0.001$. Therefore, it can be seen that both the SUEIT and the EIQ predict a small portion of unique variance in TL.

Table 9.18: Summary of Hierarchical Regression Analysis for EI Models Predicting TL – Incremental Prediction of SUEIT Over EIQ

Summary of Hierarchical Regression Analysis for EI Models Predicting TL: Incremental Prediction of SUEIT over EIQ					
Variable	B	SE B	Beta	R Square Change	Significance
Step 1					
Gender	0.105	0.05	0.121	0.073	0.034
MCSDS	0.018	0.005	0.224		<0.001
Step 2					
Gender	0.142	0.04	0.163	0.320	0.001
MCSDS	-0.004	0.004	-0.047		0.357
Emotional Intelligence Test	0.017	0.001	0.625		<0.001
Step 3					
Gender	0.064	0.04	0.074	0.066	0.112
MCSDS	-0.004	0.004	-0.053		0.27
Emotional Intelligence Test	0.011	0.002	0.416		<0.001
Swinburne University Emotional Intelligence Test	0.008	0.001	0.345		<0.001

Therefore, from the above regression analyses, it can be seen that both the models of EI have some unique element in predicting TL as well as overlapping elements.

9.4.3 FURTHER GENDER DIFFERENCES – MANOVA AND T-TESTS

This section additionally examines the mean differences in the scores of the male and female respondents on the individual and total variables of TrL, OL and LFL.

The TrL components did not satisfy the necessary assumptions and therefore gender differences on these components were analysed using *t*-tests. The LFL scale is unidimensional; consequently MANOVA tests were not necessary to study LFL. A *t*-test was adequate to ascertain the gender differences in LFL.

9.4.3.1. TRANSACTIONAL LEADERSHIP – T-TESTS

There was little or no correlation among the TrL components of contingent reward, management by exception – active and management by exception – passive. Pallant (2007) advises using univariate methods rather than MANOVA in these circumstances. Therefore, separate *t*-tests were conducted on the TrL factors (table 9.19).

T-tests showed that male respondents had a significant higher mean score for management-by-exception (passive) than female respondents [$t(306) = 3.363, p = 0.001, d = 0.4$]. The magnitude of the mean difference (mean difference = 0.22, 95% CI: 0.09 to 0.342) was medium.

Table 9.19: T-Tests for TrL Factors On Gender Scores

T-TEST - GENDER DIFFERENCES IN TrL FACTORS											
VARIABLE	n		Mean		Standard Deviation		t statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size Cohen's d	Effect
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE					
Contingent Reward	98	211	2.98	3.07	0.48	0.6	-1.477	0.141	307	0.16	Small
Management by Exception - Active	98	208	2	1.9	0.79	0.88	1.022	0.308	304	0.12	Negligible
Management by Exception - Passive	98	210	1.09	0.88	0.56	0.51	3.363	0.001*	306	0.4	Medium
Total TrL	98	207	2.03	1.95	0.38	0.42	1.533	0.126	303	0.2	Small

* indicates that the difference in male and female mean scores is significant

9.4.3.2 LAISSEZ-FAIRE LEADERSHIP – GENDER T-TESTS

T-test results examining gender differences for leader self-ratings of LFL did not yield any significant differences (table 9.20).

Table 9.20: T-Test for LFL on Gender Scores

NHS SAMPLES COMPARED	VARIABLE	n		Mean		Standard Deviation		t statistic (two-tailed)	Significan ce (p)	Degree of Freedom
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE			
	LF	98	211	0.6	0.49	0.49	0.48	1.76	0.08	307
Above result is non-significant										

9.4.3.3. OUTCOMES OF LEADERSHIP – MANOVA

A one-way between-groups multivariate analysis of variance was conducted to investigate the gender differences in the OL factors comprising satisfaction, extra effort and effectiveness. Assumptions of normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, multicollinearity and equality of variances were checked to ensure no serious violations. The MANOVA multivariate test results were insignificant with $F(3, 279) = 2.499, p = 0.06$; Wilks' Lambda = 0.974, partial eta squared = 0.026. This indicated that there was no statistically significant difference between males and females on any of the OL variables. A closer inspection of the univariate F-tests, did however reveal that using a Bonferroni adjusted alpha of $(0.5/3) 0.017$, satisfaction [$F(1, 281) = 7.149, p = 0.008$, partial eta squared = 0.025] demonstrated the possibility of a significant difference between male (mean = 3.172, standard deviation = 0.547) and female (mean = 3.342, standard deviation = 0.473) scores with females having higher scores. Therefore, individual t-tests have been conducted on each OL item to see if any gender difference is revealed.

T-test results for satisfaction indicated a significantly higher mean score for female respondents than their male counterparts [$t(287) = -2.669, p = 0.008, d = 0.35$]. The magnitude of the mean difference (mean difference = -0.168, 95% CI: -0.292 to -0.044) was small (table 9.21).

T-test for the total score on outcomes of leadership showed a significantly higher mean score for female participants compared to the male participants [$t(284) = -2.287, p = 0.023, d = 0.29$]. The magnitude of the mean difference (mean difference = 10.128, 95% CI: -0.238 to 0.018) was small (table 9.21).

Table 9.21: OL T-test for Gender Scores

T-TEST - GENDER DIFFERENCES IN OL FACTORS											
VARIABLE	n		Mean		Standard Deviation		t statistic (two-tailed)	Significance (p)	Degree of Freedom	Effect Size Cohen's d	Effect
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE					
Extra Effort	97	206	2.72	2.82	0.54	0.61	-1.299	0.195	301	0.17	Small
Effectiveness	98	210	3.09	3.19	0.45	0.48	-1.771	0.078	306	0.21	Small
Satisfaction	91	198	3.17	3.34	0.54	0.47	-2.669	0.008*	287	0.35	Small
Total OL	91	195	3	3.13	0.43	0.45	-2.287	0.023*	284	0.29	Small

* indicates that the difference in male and female mean scores is significant

9.5 COMPARING LEADERSHIP AND OL SCORES ACROSS EI LEVELS

In order to assess the relationship between EI and TL, as well as EI and OL, the NHS leaders' sample could be divided into two groups based on their EI scores, designated as leaders with low or high EI. This can be done by dividing the sample at the 50th percentile (median-point) of the EI scores of the sample. As two measures of EI have been employed in this study, therefore in this sample this can be done twice; with regard to leader self-ratings on the SUEIT and EIQ measures. This would divide the sample at the SUEIT 50th percentile (median) of 226.66 and the EIQ 50th percentile (median) of 263.34 (table 9.22).

However, as Armstrong (2000) indicated; dichotomising the data in this manner would mean that respondents with scores extremely close to the mid-point; but scores which are slightly lower and slightly higher than the mid-point would be classed as low EI and high EI respectively despite being highly similar.

An alternative to the above would be to trichotomise the dataset based on EI self-ratings into leaders with high EI, medium EI and low EI. Hereby the data is divided

into three groups based on their SUEIT and EIQ measures. The data-set is split at the thresholds corresponding to the 33rd and 66th percentile EI scores of the sample.

Hence if the data is dichotomised then, respondents with high and low EI will be classified as follows:

Table 9.22: Percentile Points for Dichotomised EI Data

EI Model	Low EI	High EI
SUEIT (n = 304)	≤ 227	> 227
EIQ (n = 309)	≤ 263	> 263

If the data is divided into three groups, then the respondents with high EI, medium EI and low EI would be classified as follows (table 9.23):

Table 9.23: Percentile Points for Trichotomised EI Data

EI Model	Low EI	Medium EI	High EI
SUEIT (n = 304)	≤ 220	221 to 232	≥ 233
EIQ (n = 309)	≤ 257	258 to 269	≥ 270

This study adopts the latter option and trichotomises the dataset according to EI self-ratings as shown in table 9.23 and compares leader self-ratings on TL, TrL, LFL and OL.

Table 9.24: One-Way ANOVA Ratings for Low EI, Medium EI And High EI Leader Groupings

Variable	Groups Based on EI Models	Low EI Leaders			Medium EI Leaders			High EI Leaders			df	F – ratio	Eta - Squared	Effect Size	Significant Mean Differences
		n	Mean	SD	N	Mean	SD	n	Mean	SD					
TL	SUEIT	100	2.79	0.32	91	3.08	0.34	109	3.33	0.37	2,297	64.63**	0.3	Negligible	Low EI < Medium EI < High EI
	EIQ	102	2.82	0.31	100	3.05	0.34	102	3.35	0.37	2,301	62.71**	0.29	Small	Low EI < Medium EI < High EI
TrL	SUEIT	100	1.93	0.43	90	1.97	0.38	110	2	0.41	2,297	0.74	-	-	ns
	EIQ	102	1.96	0.38	99	1.94	0.43	104	2.02	0.41	2,302	1.1	-	-	ns
LFL	SUEIT	102	0.66	0.51	92	0.5	0.46	110	0.41	0.45	2,301	7.37**	0.05	Negligible	Low EI > High EI
	EIQ	104	0.71	0.5	101	0.55	0.46	104	0.32	0.41	2,202.24	19.26**	0.11	Negligible	Low EI > Medium EI > High EI
OL	SUEIT	95	2.79	0.36	88	3.09	0.39	101	3.36	0.38	2,281	57.26**	0.29	Small	Low EI < Medium EI < High EI
	EIQ	94	2.81	0.36	96	3.03	0.38	96	3.4	0.38	2,188.63	61.78**	0.3	Negligible	Low EI < Medium EI < High EI

Having trichotomised the data-set into three groups of leaders based on their EI self-ratings on the SUEIT and EIQ: *Low EI Leaders* (LEIL), *Medium EI Leaders* (MEIL) and *High EI Leaders* (HEIL); the leaders' TL, TrL, LFL and OL self-ratings were compared across these three groups employing one-way ANOVA tests. ANOVA tests were conducted twice for each dependent variable – first for leader EI groupings based on the SUEIT and then based on the EIQ. The EI test employed to create the groupings are indicated in the subscript to the abbreviation for each EI group.

As shown in table 9.24, ANOVA results were statistically significant for TL and LFL but non-significant for TrL and OL. These results have been explained in the subsequent sections.

9.5.1 INFLUENCE OF EI ON TL IN LOW, MEDIUM AND HIGH EI GROUPINGS

TL scores displayed a statistically significant difference across the leader EI groupings based on the SUEIT (table 9.24). Hochberg's GT posttest showed that mean TL scores for $LEIL_{SUEIT}$, $MEIL_{SUEIT}$, $HEIL_{SUEIT}$ were significantly different from each other. A clear trend was visible where leaders in the low EI group achieved the lowest TL scores; leaders in the high EI group achieved the highest TL scores. Leaders in the medium EI group achieved TL scores that fell in between the mean TL scores of the high EI and low EI leader groupings.

Significant differences were also displayed in the TL scores among the low/medium/high EI leader groupings based on EIQ self-ratings (table 9.24). Hochberg's GT posttest showed that mean TL scores for $LEIL_{EIQ}$, $MEIL_{EIQ}$ and $HEIL_{EIQ}$ were significantly different from each other. As in the case of the groupings based on the SUEIT, TL scores were lowest for $LEIL_{EIQ}$ and highest for $HEIL_{EIQ}$. Leaders in the $MEIL_{EIQ}$ group achieved TL scores which fell in between the above two-groupings. Therefore, from the above two results, it was clear that as leaders' EI increased, their TL skills also increased and vice-versa.

9.5.2 INFLUENCE OF EI ON TrL IN LOW, MEDIUM AND HIGH EI GROUPINGS

No significant mean differences were found between TrL scores of the leaders across the LEIL, MEIL, HEIL groupings as per SUEIT as well as EIQ self-ratings (table 9.24). This indicates that TrL behaviour did not vary based on high, medium or low EI of the leaders.

9.5.3 INFLUENCE OF EI ON LFL IN LOW, MEDIUM AND HIGH EI GROUPINGS

Interesting results were revealed by the ANOVA tests on LFL. $LEIL_{SUEIT}$, was significantly different to $HEIL_{SUEIT}$ and an inverse trend was revealed where lower EI corresponded to higher LFL and vice versa. LFL scores for $MEIL_{SUEIT}$ fell in between the LFL scores for the $LEIL_{SUEIT}$ and $HEIL_{SUEIT}$ groups; however the differences with this group were not significant.

LFL scores for all the three groups $LEIL_{EIQ}$, $MEIL_{EIQ}$ and $HEIL_{EIQ}$ were significantly different from each other. LFL scores were highest for $LEIL_{EIQ}$, followed by $MEIL_{EIQ}$ and the lowest LFL scores were for $HEIL_{EIQ}$. This also displayed a clear trend, whereby LFL behaviour decreased as leaders' EI levels increased.

9.5.4 INFLUENCE OF EI ON OL IN LOW, MEDIUM AND HIGH EI GROUPINGS

OL scores were significantly different from each other for the LEIL, MEIL and HEIL groups as measured by both the SUEIT and EIQ. For both set of groups, OL scores were lowest for LEIL, followed by MEIL and the highest for HEIL. Therefore

the results clearly showed that as the leaders EI increased their OL or successful leadership outcome levels also increased.

9.6 ANALYSING INFLUENCE OF SOCIAL DESIRABILITY BIAS

The Marlowe-Crowne Social Desirability Scale (MCSDS) was administered to capture the influence that social desirability may have on the self-report responses. This section investigates the possible influence of social desirability on responses received for the constructs being studied in this thesis.

9.6.1 MCSDS AND OVERALL SCORE OF KEY CONSTRUCTS

The following table (table 9.25) surveys if there is an association between social desirability and the total scores of the key constructs being studied in this thesis. MCSDS showed highly significant and positive correlations with SUEIT ($r = 0.32, p < 0.001$); EIQ ($r = 0.42, p < 0.001$); TL ($r = 0.24, p < 0.001$) and OL ($r = 0.3, p < 0.001$). MCSDS displayed a highly significant, negative, weak correlation with LF leadership ($r = -0.34, p < 0.001$). No significant correlation was found between MCSDS and TrL.

Table 9.25: Correlations of MCSDS and TOTAL EI, TL, TrL, LF, OL

Marlowe-Crowne Social Desirability Scale and SUEIT, EI, TL, TrL, LF & OL Total Scores							
		Total SUEIT	Total EIQ	Total TL	Total TrL	Total LF	Total OL
MCSDS	<i>r</i>	0.32***	0.42***	0.24***	0.01	-0.34***	0.3***
	<i>n</i>	296	300	296	296	300	280
* $p < 0.05$, two-tailed							
** $p < 0.01$, two-tailed							
*** $p < 0.001$, two-tailed							

These results show that social desirability could influence the key factors being studied; therefore, correlations were also computed after controlling for social desirability bias. This is discussed in the next section.

9.6.2 RESULTS AFTER CONTROLLING FOR SOCIAL DESIREABILITY BIAS

Partial correlation was computed to control for the effects of MCSDS. This facilitates exploring the relationship between two variables while statistically controlling for the effects of MCSDS. This helped to eliminate the influence that MCSDS may have on the association being studied. The aim of conducting these calculations was to ascertain, if the influence of MCSDS made any noteworthy difference to the associations that have been tested between different constructs, throughout this chapter.

Table 9.26 indicates results of partial correlation coefficient for the total scores of the key constructs along with the value of Pearson's r obtained, when social desirability was not controlled for (zero-order Pearson's correlations). Having compared the correlation scores before controlling for social desirability bias and after controlling for MCSDS effects, it was found that in some places, the actual value of r was marginally lower than when MCSDS was not controlled for. However, the significance level, direction and general strength of the correlations remained unaltered. Based on this analysis, it is being assumed that social desirability bias did not compromise the scores and results of this study. Detailed breakdown of these results comparing the partial correlation and zero-order correlation scores for all the subscales have also been included in detail in the appendices (appendix 18).

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Table 9.26: Partial Correlation Results for Total Scores after Controlling for MCSDS

Partial Correlations and Zero-Order Correlations for SUEIT, EI, TL, TrL, LFL & OL Total Scores (After and before controlling for Social Desirability Bias)							
		Total SUEIT	Total EIQ	Total TL	Total TrL	Total LFL	Total OL
Total SUEIT	<i>r (-sd)</i>	1	0.56***	0.6***	0.05	-0.16**	0.51***
	<i>p (-sd)</i>		< 0.001	< 0.001	0.44	0.007	<0.001
	<i>r</i>	1	0.62***	0.6***	0.05	-0.25***	0.55***
	<i>p</i>		< 0.001	< 0.001	0.42	< 0.001	< 0.001
Total EIQ	<i>r (-sd)</i>	0.56***	1	0.57***	0.11	-0.3***	0.57***
	<i>p (-sd)</i>	< 0.001		< 0.001	0.067	< 0.001	< 0.001
	<i>r</i>	0.62***	1	0.61***	0.102	-0.4***	0.62***
	<i>p</i>	< 0.001		< 0.001	0.075	< 0.001	<0.001
Total TL	<i>r (-sd)</i>	0.6***	0.57***	1	-	-	0.75***
	<i>p (-sd)</i>	< 0.001	< 0.001		-	-	<0.001
	<i>r</i>	0.6***	0.61***	1	-	-	0.76***
	<i>p</i>	< 0.001	< 0.001		-	-	<0.001
Total TrL	<i>r (-sd)</i>	0.05	0.12	-	1	-	0.25***
	<i>p (-sd)</i>	0.44	0.067	-		-	<0.001
	<i>r</i>	0.05	0.1	-	1	-	0.25***
	<i>p</i>	0.42	0.075	-		-	<0.001
Total LFL	<i>r (-sd)</i>	-0.16**	-0.3***	-	-	1	
	<i>p (-sd)</i>	0.007	< 0.001	-	-		<0.001
	<i>r</i>	-0.25***	-0.4***	-	-	1	-0.36***
	<i>p</i>	< 0.001	< 0.001	-	-		<0.001
Total OL	<i>r (-sd)</i>	0.51***	0.57***	0.75***	0.25***	-0.29***	1
	<i>p (-sd)</i>	<0.001	< 0.001	<0.001	<0.001	< 0.001	
	<i>r</i>	0.55***	0.62***	.76***	0.25***	-0.36***	1
	<i>p</i>	< 0.001	<0.001	<0.001	<0.001	<0.001	
<i>r(-sd)</i> = partial correlation (pearson's <i>r</i> after controlling for MCSDS), <i>p (-sd)</i> = significance value for <i>r(-sd)</i>							
<i>r</i> = correlation coefficient without controlling for MCSDS, <i>p</i> = significance value for <i>r</i>							
* <i>p/p (-sd)</i> < 0.05, two-tailed							
** <i>p/p (-sd)</i> < 0.01, two-tailed							
*** <i>p/p (-sd)</i> < 0.001, two-tailed							

9.7 CHAPTER CONCLUSION

This chapter has reported the outcomes of testing the hypotheses investigating the association between EI, leadership and OL. Some correlation between EI and all the leadership styles was revealed with positive correlations with TL and TrL elements and a negative relationship with LFL. EI displayed significant capacity to predict variance in TL. Positive associations were also reported between EI/TL and OL. Some gender differences were also uncovered with higher female scores for TL and the EIQ model of EI. The hypotheses results have been summarised below in table 9.27. Furthermore, supplementary analyses divulged incremental validity for SUEIT and EIQ over each other in predicting TL, although EIQ reported higher predictive validity than the SUEIT. In gender differences unveiled; TrL factor management-by-exception (passive) showed higher male scores, LFL showed no gender variances and females demonstrated higher OL scores than males. Moreover, it was found that leaders with higher EI scores exuded higher TL behaviours and achieved higher OL. TrL changes were insignificant across different levels of EI. LFL changes were insignificant for SUEIT levels but steadily decreased as EIQ increased. Finally, social desirability bias was verified and controlling for MCSDS revealed only minor differences in correlation values with the same level of significance for all correlations. Table 9.27 summarises these findings. The following two chapters report the results and data analysis for phase 2 of this study which studies leader self-ratings and follower-ratings of their leaders in combination.

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Table 9.27: Summary of Hypotheses Results – Phase 1

SUMMARY OF HYPOTHESES RESULTS – PHASE 1		
NO.	HYPOTHESES – PHASE 1	RESULTS
EMOTIONAL INTELLIGENCE AND FULL RANGE LEADERSHIP: SELF-RATINGS		
H 1.1	There will be a strong positive relationship between EI and TL.	Supported
H 1.2	There will be no statistically significant relationship between EI and TrL.	Partially Supported
H 1.3	There will be no statistically significant relationship between EI and Laissez-Faire Leadership.	Refuted
H 1.4	EI scores will predict TL.	Supported
OUTCOMES OF LEADERSHIP		
H 1.5	There will be a positive relationship between EI and OL.	Supported
H 1.6	There will be a positive relationship between TL and OL.	Supported
GENDER DIFFERENCES		
H 1.7	Female leaders will display higher TL than their male counterparts.	Supported
H 1.8	Female leaders will display higher levels of EI than their male counterparts.	Supported with SUEIT Refuted with EIQ

CHAPTER 10: DATA TREATMENT AND DESCRIPTIVE STATISTICS – AGGREGATED FOLLOWER-RATINGS OF LEADERS (PHASE 2)

10.0 CHAPTER INTRODUCTION

This chapter takes into account leader self-ratings and follower-ratings of the focal leader. Results for follower-ratings of leaders and correlations between leader self-ratings and follower-ratings are presented here. Leaders are categorised into self-other-agreement (SOA) categories following appropriate justification and classification rules. Follower-ratings for each focal leader have been aggregated in this chapter following internal consistency (rwg) tests.

The very nature of leadership is redundant without the existence of peers or followers. Leadership is not achievable by an individual in isolation. Therefore, to capture a holistic understanding of the association between EI, leadership and outcomes, it is also important to include follower ratings in the investigation. The majority of studies on EI and leadership have relied heavily on leader self-ratings only. Hence, this thesis attempts to consolidate follower-ratings and self-ratings on the focal leaders. Therefore, self and follower-ratings of the focal leaders were compared and analysed in different ways.

Self-ratings have often been criticised as being inflated or suffering from leniency or social desirability bias (SDB) (Podsakoff & Organ, 1986). Results in phase 1 showed that SDB did not influence the nature of association between the different variables (Table 9.26 & appendix 18). While significant positive correlations were found between SDB and SUEIT, EIQ, TL and OL; a significant negative correlation with LFL was displayed. Only TrL and SDB demonstrated no association (table 10.1). Simultaneously, it is worth noting that some literature has demonstrated scepticism towards self-enhancing bias (Schriesheim, 1979; Dagenais, 1979). Therefore, in order to enhance the robustness and rigour of this study, phase 2 examines the

association between EI and change leadership by simultaneously taking into account leader and follower- ratings of the leaders.

Table 10.1: MCSDS Correlations with All Variables

Variables	SUEIT	EQ	TL	TrL	LFL	OL
MCSDS	0.32**	0.42**	0.24**	0.01	-0.34**	0.3**
N	296	300	296	296	300	280
** = $p < 0.001$						

10.1 CATEGORISATION OF SELF-OTHER-AGREEMENT SYSTEM

Based on SOA, leaders were categorised as overestimators, underestimators and in-agreement/poor or in-agreement/good. This follows the categorisation of agreement principles developed by Yammarino and Atwater (1997). First the difference between self and follower-ratings of TL were computed along with the mean difference score. Thereafter, deviations from the mean difference were employed to categorise leaders. Leaders with difference scores which were one-half standard deviation or more above the mean difference were labelled as ‘overestimators’ and leaders who had difference scores which were one-half standard deviation or more below the mean difference were categorised as ‘underestimators’. Leaders with difference scores within one-half standard deviation of the mean difference were categorised as leaders ‘in-agreement’. In the ‘in-agreement’ category, if the leaders’ difference scores were above the mean difference score, the focal leaders were classified as ‘in-agreement/good’ and if the difference score was below the mean difference, the focal leaders were classified as ‘in-agreement/poor’. Leaders who were ‘in-agreement’ on their TL scores were dubbed as ‘self-aware’ by Sosik and Megerian (1999).

Atwater and Yammarino (1992) had initially introduced the three categories of ‘overestimators’, ‘underestimators’ and ‘in-agreement’. Subsequently the categories were revised and the ‘in-agreement’ category was further divided into ‘good’ and ‘poor’, thereby differentiating between focal leaders who scored themselves in the same manner as their followers, where both scores were high and focal leaders

whose self-ratings agreed with their follower-ratings where both scores were low (Atwater & Yammarino, 1997; Atwater et al., 1998). This differentiation is beneficial as it helps to identify leaders who are performing well or poorly according to both the leader and the followers' perceptions. Therefore, this thesis has employed the newer classification system comprising four categories rather than three.

10.2 CRITICISMS OF MEASUREMENT OF CONGRUENCE: DIFFERENCE SCORES AND SOA CATEGORISATION

Use of congruence indices (Edwards, 1994) and difference scores (Johns, 1981) have been criticised by some authors on methodological grounds. Johns' (1981) criticism of statistical analyses using difference scores was that the reliability of a difference score depends on the reliability of the contributory components and if the components employed to create the difference scores are strongly correlated or are obtained from the same source or individual, then difference scores could suffer from reduced reliability. Furthermore, reliability may be compromised; firstly, if the individual components have low reliability, as in the case of single-item measures; and secondly, if difference scores and non-difference measures are simultaneously examined via multivariate analysis (Johns, 1981). Edwards (1993, 1994) highlighted the potential of difference scores concealing the individual contribution of each component involved in the resultant difference score, which he refers to as conceptual ambiguity and advocates using polynomial regression.

This technique of polynomial regression entails arguing the functional form of the model where self and other ratings are the independent variable and outcomes are treated as the dependent or criterion variable. The relationship between self-ratings, other-ratings and outcomes are seen in a three-dimensional form. Here the researcher is required to theoretically hypothesise the nature of relationship expected between the self-ratings, other-ratings and the outcome, where all three are considered simultaneously. This hypothesis is then tested using polynomial (hierarchical) regression. Here, in the first step (model 1) the self-ratings and other-ratings are entered as the independent variables on which the outcome measure is regressed. The cross product of the self and other ratings, the square of self-ratings and the square of

other-ratings are entered in the following step (model 2) (Atwater et al., 1998). Here the cross-product between self-ratings and other-ratings is perceived as a surrogate of the difference score (Allinson et al., 2001). The significance of the increase in R^2 is evaluated to ascertain the effect of the addition of the cross-product and the nature of relationship between self-ratings, other-ratings and the outcome measure (Atwater et al., 1998; Allinson et al., 2001). Furthermore, squaring the component scores in the first step representing quadratic forms in a polynomial equation (Edwards, 1993, 1994) facilitates measuring curvilinear relationships with the dependent outcome measure.

In this study, the difference scores have not been directly used in the data analysis; instead difference scores have been employed to allocate leaders into appropriate categories following the methods set forth by Atwater & Yammarino (1992). The system of categorisation being used in this study has received endorsement in other studies (Atwater & Yammarino, 1997; Atwater et al., 1998, Sosik & Megerian, 1999, Sosik & Godshalk, 2004) although some authors argue that some of the issues arising from using difference scores in data-analysis spill over into studies using SOA categories based on difference scores; and SOA categorisation may suffer from the issues of artificially dichotomising continuous variables (Brutus et al., 1999). Due to these potential issues, some authors prefer to employ polynomial regression rather than SOA categorisation to study congruence data (Edwards, 1993, 1994; Brutus et al., 1999; Fleenor et al., 2010). Notwithstanding, the use of regression analysis in SOA or congruence studies suffers from major criticisms. These have been enumerated below.

Kristof (1996) pointed out that Edwards (1993, 1994) regression technique suffers from high multicollinearity²⁸ in terms of both the quadratic forms and interaction form. In addition, this test is highly susceptible to sample size and power due to the high count of the degrees of freedom needed in each test (Kristof, 1996). Bedeian & Day (1994) questioned the validity of the higher order factors which are generated by squaring self and other ratings in performing Edwards' polynomial regression. Significant amount of variance may be informed by the higher order terms which do

²⁸ Multicollinearity refers to a high level of correlation between the independent variables.

not necessarily contribute to the theoretical understanding of the SOA model. Tinsley (2000) endorsed these reservations by pointing out that sample specific error variance would significantly inflate the variance projected by the polynomial regression. Furthermore, Tisak and Smith (1994) argue that difference scores may be conceptually different from the cross-product of their component scores and therefore the cross-product of the components may not serve as an appropriate surrogate for the difference scores.

Allinson et al. (2001) captured the above drawbacks succinctly and in the light of these disadvantages of polynomial regression, argued in favour of difference scores when the idea of congruence or SOA was important for the study. Furthermore, Johns' (1981) criticism of the contributory components being correlated, was not relevant in this study as the correlation between TL of focal leaders and subordinates was non-significant ($r = 0.06, p > 0.05$). In addition, the measures used in this study and the SOA data analysis are not single-item measures. Moreover, the issue of conceptual ambiguity raised by Edwards (1993, 1994) is mostly redundant in the case of SOA categories as the difference scores are used to ascertain overestimators, underestimators and rater-ratee agreement. Therefore, this thesis does not employ the polynomial regression technique and following the precedence set by earlier studies (Atwater et al., 1992; Sosik & Megerian, 1999; Sosik & Godshalk, 2004) has adopted the procedure of creating self-other agreement categories.

10.3 JUSTIFICATION OF SOA BASED ON TL

SOA categorisations in this study are based on TL scores. SOA categories are based on leadership scores as leadership is a psychological process which is incomplete and unachievable without the existence of followers and interactions between the leaders and followers. In other words, the concept of leadership is untenable without followers. Therefore, in creating agreement categories of the focal leaders, leadership scores have been taken into account rather than EI scores. This thesis measured three styles of leadership encompassed in the FRL model: TL, TrL and LFL. TL self and follower-ratings have been taken into account in creating the agreement categories as this thesis focuses on leadership styles conducive to change. TL has been argued to

encompass a value system more conducive to change in comparison to TrL and LFL (Krishnan, 2001; Bass & Avolio, 1994a). Therefore TL scores were deemed to be the most appropriate for leader-follower self-other agreement categorisations.

In doing so, this thesis also follows the precedence set by several authors, whereby leaders have been categorised as overestimators, underestimators or in-agreement (good/poor) based on the level of agreement between the leaders' self ratings and the subordinates' ratings of the focal leaders' TL (Atwater & Yammarino, 1992; Sosik & Megerian, 1999) or charismatic leadership scores (Berson & Sosik, 2007). In particular, the example set by Sosik and Megerian (1999) has been adopted; where leaders were categorised based on TL self and subordinate ratings prior to investigating the TL association with characteristics identified as predictors of EQ. Sosik and Megerian (1999) argued that characteristics like private and public self consciousness, self-monitoring, personal efficacy, interpersonal control, social self-confidence, even-temperedness and sensitivity were indicators of EQ. They did not use any of the established models/instruments of EI to study EI, which has been done in this thesis. Thereby, this thesis extends Sosik and Megerian's (1999) study by using two different established EI models and psychometric measures and a more detailed system of categorisation.

10.4 FREQUENCY DISTRIBUTION OF REPORTING-STAFF

The final sample used for phase 2 of this thesis comprised of 220 follower-ratings on their respective leaders. In total, 97 focal leaders had self-ratings and follower-ratings which could be employed in the analysis. There were 66 focal leaders with multiple follower ratings (68%) and 31 focal leaders with single follower ratings (32%). The number of follower surveys completed per focal leader ranged from 1 (for 32% of leaders) to 5 (for 5% of leaders). The following table (table 10.2) displays the frequency distribution of focal leaders with different number of follower ratings.

Table 10.2 – Focal Leader Frequencies for Number of Follower Ratings Received

Number of Follower Ratings	Frequency of Focal Leaders	Percentage Frequency of Focal Leaders (%)
1	31	32
2	27	27.8
3	26	26.8
4	9	9.3
5	4	4.1

10.5 AGGREGATION OF RATER SCORES

To facilitate meaningful calculation and interpretation of subordinate ratings, the subordinate scores for each focal leader were aggregated. In order to ensure inter-rater reliability amongst the subordinate ratings for each focal leader *rwg* (reliability within-group) indices were computed (James et al., 1984). A summary of the indices has been presented below (table 10.3). This shows the percentage of focal leader rater-groups who achieved *rwg* scores of 0.5/0.7/0.9 and above. Based on the results below, and the precedence set by earlier articles (Berson & Sosik, 2007; Sosik & Jung, 2003; Sosik & Megerian, 1999) it was concluded that aggregation was appropriate.

Table 10.3: RWG Analysis for Follower Rating Groups of Focal Leaders

Variable	<i>rwg</i> value	Percentage
TL	> 0.9	48.4%
	> 0.7	87.1%
	> 0.5	93.5%
TrL	> 0.9	64.1%
	> 0.7	96.9%
	> 0.5	98.4%
LF Leadership	> 0.9	56.5%
	> 0.7	80.6%
	> 0.5	91.9%
OL	> 0.9	57.8%
	> 0.7	87.5%
	> 0.5	95.3%
SUEIT	> 0.9	95.8%
	> 0.7	100%
EIQ	> 0.9	89.4%
	> 0.7	98.5%
	> 0.5	100%

After ascertaining the satisfactory level of *rwg* index for the overall scores of the above key variables, the rater scores for each focal leader were aggregated by computing the average score for each variable, including factor-wise scores and overall scores. If a score was missing for any of the raters for a focal leader, then only the remaining rater scores were taken into account and aggregated.

10.6 TREATMENT OF MISSING DATA FOR EACH VARIABLE

As indicated earlier, while aggregating rater scores if there were missing values then the existing values were taken into account and aggregated.

10.7 METHOD OF CATEGORISATION: CALCULATIONS

The mean score for the difference between leader self-ratings and follower-ratings of the focal leader is 0.42 with a standard deviation of 0.76. Therefore value of one half standard deviation is 0.38.

Based on the above norms explained in section 10.1, in this study:

- overestimators have a difference score of greater than 0.8
- underestimators have a difference score which is less than 0.04
- in-agreement (good) leaders will have a score ranging from 0.42 to 0.8
- in-agreement (poor) leaders will have a score ranging from 0.04 to 0.41 (or less than 0.42)

10.8 SOA FREQUENCIES

SOA categories were created following the above system. This yielded the following percentage breakdown in the different categories. One follower rating did not have sufficient responses to compute an overall TL score for the leader; therefore this had to be excluded from the categorisations. The final analyses using SOA categorisations included 97 focal leaders and their self and follower ratings.

Table 10.4: Frequency Table of Focal Leaders in Each Self-Other Category

Category	Frequency	Percent (%)
Overestimators	26	26.8
In-Agreement (Good)	15	15.5
In-Agreement (Poor)	23	23.7
Underestimators	33	34

10.9 DESCRIPTIVE STATISTICS OF KEY VARIABLES AS AGGREGATED DATA

This section presents the descriptive statistics the self-ratings of the focal leaders (table 10.5) and the aggregated follower-ratings of the focal leaders (table 10.6). Furthermore, descriptive statistics have been provided for leader self-ratings and follower-ratings in SOA categories (table 10.7).

Table 10.5: Summary of Descriptive Statistics for Key Variables as Per Aggregated Follower Ratings of Focal Leaders

Variable	N	Missing	Mean	Standard Deviation	Range
TL	97	0	2.71	0.6	3.39
TrL	97	0	1.9	0.36	1.92
LFL	97	0	0.62	0.65	3.25
OL	97	0	2.19	0.57	2.63
SUEIT	85	12	220.92	25.62	206
EIQ	97	0	263.88	25.62	133

Table 10.6 – Summary of Descriptive Statistics for Key Variables as Per Focal Leaders Self-Ratings

Variable	N	Missing	Mean	Standard Deviation	Range
TL	97	0	3.13	0.36	1.75
TrL	97	0	1.97	0.36	1.92
LFL	97	0	0.48	0.45	2
OL	97	0	3.13	0.43	2.06
SUEIT	94	3	227.86	15.47	15.47
EIQ	97	0	265.1	14.84	14.84

Table 10.7: Mean and Standard Deviation for Focal Leader Self-Ratings and Follower-Ratings in SOA Categories

Variable	Leader or Follower Rating	Overestimators		In-Agreement/Good		In-Agreement/Poor		Underestimators	
		M	SD	M	SD	M	SD	M	SD
SUEIT	Leader Self-Ratings	230.85	17.72	233	11.57	225.48	12.05	224.85	16.53
SUEIT	Follower-Ratings	207.8	19.74	215.21	11.98	226.48	21.57	229.14	32.46
EQ	Leader Self-Ratings	272.65	14.87	266.73	15.68	263.57	11.38	259.48	14.47
EQ	Follower-Ratings	241.74	30.71	264.95	22.6	270.14	20.65	276.47	11.18
TL	Leader Self-Ratings	3.4	0.39	3.21	0.27	3.1	0.31	2.91	0.23
TL	Follower-Ratings	2.07	0.66	2.6	0.31	2.85	0.32	3.18	0.21
TrL	Leader Self-Ratings	2.02	0.35	2.06	0.29	2	0.41	1.86	0.36
TrL	Follower-Ratings	1.73	0.42	1.98	0.27	1.88	0.23	2	0.38
LFL	Leader Self-Ratings	0.27	0.38	0.47	0.43	0.58	0.42	0.58	0.48
LFL	Follower-Ratings	1.15	0.83	0.5	0.55	0.55	0.5	0.32	0.28
OL	Leader Self-Ratings	3.42	0.39	3.15	0.4	3.12	0.35	2.92	0.41
OL	Follower-Ratings	1.63	0.62	2.17	0.45	2.38	0.43	2.51	0.25

10.10 CORRELATION ANALYSIS OF OVERALL LEADER AND FOLLOWER SCORES

Bivariate correlation analysis was conducted between leader and follower scores by taking into account scores for all the 97 focal leaders and their follower ratings. The results showed that there were no significant correlations between the leader and follower scores on any of the variables TL, TrL, LFL, OL, total EQ or total SUEIT. The scores obtained are shown below (table 10.7).

Table 10.8: Correlations between Leader Self-Ratings and Follower-Ratings

Variables	Leader TL	Leader TrL	Leader LFL	Leader OL	Leader EIQ	Leader SUEIT
Follower TL	0.06	-0.05	0.07	-0.03	-0.05	0.17
Follower TrL	0.12	0.11	-0.02	-0.02	-0.06	0.02
Follower LFL	0.12	0.03	-0.05	0.02	0.05	0.03
Follower OL	0.03	0	0.04	0.02	-0.01	0.13
Follower EIQ	-0.02	-0.02	0.12	0.07	0.01	0.03
Follower SUEIT	0.07	-0.05	0.04	0.07	0.12	-0.04
<i>p > 0.05 on all the above correlations (non-significant)</i>						

The lack of any significant correlations between leader self-ratings and follower-ratings indicate there are significant differences between the leaders and followers' perceptions of the focal leaders' leadership behaviour, EI and leadership outcomes. In order to verify this, *t*-tests were computed to check whether the mean difference between the leader self-ratings and the follower-ratings of the focal leaders is significant or not.

Results of paired-samples *t*-tests showed significant mean differences in the leader self-perceptions and follower-perceptions for the focal leader on TL, SUEIT and OL. There were no significant differences in the mean scores for leader self-perceptions and follower perceptions on TrL, LFL and EIQ. Detailed results are presented below (table 10.9).

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Table 10.9: Paired Samples T-Tests

Variables	Mean		Standard Deviation		t-statistic (two-tailed)	p	DoF	Nature of Mean Difference	95% Confidence Interval		Cohen's d	Effect
	Leaders (L)	Followers (F)	Leaders	Followers					Lower	Upper		
SUEIT (n = 83)	229.48	220.7	14.04	25.84	2.68	0.009	82	L > F	2.26	15.31	0.4	Medium
EIQ (n = 97)	265.1	263.88	14.84	25.62	0.41	ns	96	na	-4.71	7.16	na	na
TL (n = 97)	3.13	2.71	0.36	0.6	6.12	< 0.001	96	L > F	0.28	0.56	0.88	Large
TrL (n = 97)	1.97	1.9	0.36	0.36	1.42	ns	96	na	-0.03	0.17	na	na
LFL (n = 97)	0.48	0.62	0.45	0.65	-1.76	ns	96	na	-0.31	0.02	na	na
OL (n = 91)	3.13	2.19	0.43	0.57	12.84	< 0.001	90	L > F	0.8	1.1	1.91	Huge

NOTE:
 DoF = Degrees of Freedom
 p = Significance
 L = Focal Leader Self-Ratings
 F = Follower Ratings of Focal Leaders
 ns = not significant
 na = not applicable

The above results are specially interesting for EI as no significant difference has been displayed between leader self-perceptions and follower perceptions for EI measured by EIQ, however, when EI was measured using the SUEIT, leaders perceived themselves as significantly higher in EI than their followers perceived them to be. The significant difference between TL self and follower-ratings further warrants the categorisation based on TL scores.

10.11 COMPARING BETWEEN FOCAL LEADER CATEGORIES

Having grouped focal leaders into the four categories of overestimators, in-agreement (good), in-agreement (poor) and underestimators; one-way ANOVA tests were performed to see if there was any significant difference in the mean scores of self-ratings of EIQ, SUEIT, TL, TrL, LFL, and OL across the four SOA categories of focal leaders (table 10.10 and 10.11).

Table 10.11 presents the results of the one-way ANOVA tests including F-ratio and effect sizes. The ANOVA tests found no significant differences across the focal leader categories for self-ratings of SUEIT. However, for the follower-ratings of SUEIT, underestimators had significantly higher ratings than the overestimators. The EIQ scores showed that for leader self-ratings, overestimators were significantly higher than underestimators [$O < U$]. For the follower-ratings of focal leaders on EIQ, significant differences were found across a number of focal leader categories: in-agreement (good), in-agreement (poor) and underestimators were rated as significantly higher in EI than overestimators [IAG, IAP, $U > O$]. However there were no significant differences between follower-ratings for leader categories: in-agreement (good), in-agreement (poor) and underestimators.

Leader self-ratings on TL found that overestimators had significantly higher self TL scores than underestimators and leaders in-agreement (poor) [$O > U$, IAG]. Simultaneously leaders in the in-agreement (good) category had significantly higher scores than the underestimators [IAG $> U$]. In contrast, follower ratings of leader TL showed that underestimators had significantly higher follower ratings on TL than in-agreement (good), in-agreement (poor) and overestimators [$U > IAG$, IAP, O]. Focal leaders who were in-agreement (good) and in-agreement (poor) were also given significantly higher TL ratings than overestimators [IAG, IAP $> O$]. However, there were no significant differences in the follower-ratings between leaders who were in-agreement (good) and in-agreement (poor).

There were no significant differences in the self-ratings of TrL between the different categories. Follower-ratings of TrL revealed significantly higher TrL scores for underestimators than overestimators [$U > O$].

Leader self-ratings on LFL showed that underestimators had significantly higher scores than overestimators [$U > O$]. Follower-ratings of focal leaders' LFL revealed that overestimators had significantly higher scores than leaders who were in-agreement (good), in-agreement (poor) and underestimators [$O > IAG$, IAP, U]. There were no significant differences between follower-ratings on LFL between leader categories of in-agreement (good), in-agreement (poor) and underestimators.

Leader self-ratings on OL demonstrated significantly higher scores for overestimators compared to underestimators [O > U]. Follower-ratings of the focal leaders' OL showed that leaders who were in the categories of in-agreement (good), in-agreement (poor) and underestimators each received significantly higher follower-ratings than the overestimators [IAG, IAP, U > O]. There were no significant differences in the follower-ratings of OL between focal leader categories of in-agreement (good), in-agreement (poor) and underestimators.

[Please Turn Over]

Table 10.10: Means, Standard Deviations and Mean Differences For Study Variables in Focal Leader Self-Other Agreement Group

Variable	All Focal Leaders ^a (n = 97)		Overestimator ^b (n = 26)		In-Agreement (Good) ^c (n = 15)		In-Agreement (Poor) ^d (n = 23)		Underestimator ^e (n = 33)		Significant Mean Differences
	M	SD	M	SD	M	SD	M	SD	M	SD	
SUEIT											
Leader Self-Ratings	227.86	15.47	230.85	17.72	233	11.57	225.48	12.05	224.85	16.53	ns
Follower Ratings	220.91	25.62	207.8	19.74	215.21	11.98	226.48	21.57	229.14	32.46	U > O
EIQ											
Leader Self-Ratings	265.1	14.84	272.65	14.87	266.73	15.68	263.57	11.38	259.48	14.47	O > U
Follower Ratings	263.88	25.62	241.74	30.71	264.95	22.6	270.14	20.65	276.47	11.18	IA(G) > O, IA(P) > O, U > O
TL											
Leader Self-Ratings	3.13	0.36	3.4	0.39	3.21	0.27	3.1	0.31	2.92	0.23	O > U, O > IA(P), IA(G) > U
Follower Ratings	2.71	0.6	2.07	0.66	2.6	0.31	2.85	0.32	3.18	0.21	U > IA(G) > O, U > IA(P) > O
TrL											
Leader Self-Ratings	1.97	0.36	2.02	0.35	2.06	0.29	2	0.41	1.86	0.36	ns
Follower Ratings	1.9	0.36	1.73	0.42	1.98	0.27	1.88	0.23	2	0.38	U > O
LF											
Leader Self-Ratings	0.48	0.45	0.27	0.38	0.47	0.43	0.58	0.42	0.58	0.48	U > O
Follower Ratings	0.62	0.65	1.15	0.83	0.5	0.55	0.55	0.5	0.32	0.28	O > IA(G), O > IA(P), O > U
OL											
Leader Self-Ratings	3.13	0.43	3.42	0.39	3.15	0.4	3.12	0.35	2.92	0.41	O > U
Follower Ratings	2.19	0.57	1.63	0.62	2.17	0.45	2.38	0.43	2.51	0.25	IA(P) > O, IA (G) > O, U > O

NOTE:

- Includes all focal leaders
- Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.
- Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.
- Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.
- Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.

Table 10.11: Detailed ANOVA Results between Focal-Leader Categories

Variable		F -ratio	Significance	Degree of Freedom		Eta Squared	Effect Size	Categories with Significant Differences	Mean Difference		Significance <i>p</i>
				df1	df2				Categories	Difference	
SUEIT	Leader Self-Ratings	1.44	ns	3	90	Na	Na	Ns	Na	na	na
	Follower Ratings	3.72	0.02	3	81	0.12	Negligible	U > O	U > O	21.34	0.02
EIQ	Leader Self-Ratings	4.38	0.006	3	93	0.12	Negligible	O > U	O > U	13.17	0.004
	Follower Ratings	10.36	< 0.001	3	38.15	0.3	Small	IA(G) > O	IA(G) > O	23.21	0.04
								IA(P) > O	IA(P) > O	28.4	0.002
U > O	U > O	34.73	< 0.001								
TL	Leader Self-Ratings	11.7	< 0.001	3	42.82	0.28	Small	O > U	O > IA(P)	0.3	0.02
								O > IA(P)	O > U	0.48	< 0.001
								IA(G) > U	IA(G) > U	0.29	0.009
	Follower Ratings	33.99	< 0.001	3	40.3	0.54	Medium	U > IA(G) > O	U > IA(P)	0.32	0.001
								U > IA(P) > O	U > IA(G)	0.58	< 0.001
								U > O	U > O	1.11	< 0.001
								IA(G) > O	IA(G) > O	0.53	0.006
IA (P) > O	IA (P) > O	0.78	< 0.001								
TrL	Leader Self-Ratings	1.57	ns	3	93	Na	Na	Ns	Na	na	na
	Follower Ratings	2.87	0.05	3	46.27	0.1	Negligible	U > O	U > O	0.28	0.11
LF	Leader Self-Ratings	3.11	0.03	3	93	0.09	Negligible	U > O	U > O	0.31	0.04
	Follower Ratings	8.16	< 0.001	3	38.38	0.26	Small	O > IA(G)	O > IA(G)	0.65	0.02
								O > IA(P)	O > IA(P)	0.6	0.02
O > U								O > U	0.82	< 0.001	
OL	Leader Self-Ratings	7.38	< 0.001	3	87	0.2	Small	O > U	O > U	0.5	< 0.001
	Follower Ratings	15.95	< 0.001	3	38.94	0.4	Medium	IA(P) > O	IA(P) > O	0.74	< 0.001
								IA (G) > O	IA (G) > O	0.54	0.02
U > O	U > O	0.88	< 0.001								

NOTE:
na = not applicable
ns = not significant
O = Overestimators, IA(G) = In-Agreement (Good), IA(P) = In-Agreement (Poor), U = Underestimators

10.12 PLANNED COMPARISONS OR PLANNED CONTRASTS

Table 10.12 and 10.13 display the planned comparison test results for follower-ratings of the focal leaders across SOA categories. With a priori non-orthogonal tests (i.e. a situation where the same group is tested more than once thereby resulting in some overlap) Bonferroni's correction can be applied; which entails dividing the usual alpha (0.05) by the number of contrasts to be conducted – in this case 3. Therefore the Bonferroni corrected alpha is 0.017. However, in this study, results of the planned comparison tests for each hypothesis showed the same combination of comparisons were significant both before and after applying this Bonferroni correction.

With regard to SUEIT ratings, significant differences were found between overestimators and underestimators, as well as overestimators and in-agreement/poor leaders. For the follower-ratings of leaders EIQ model overestimators had significantly lower scores than the other SOA categories (table 10.12). Furthermore, for leadership outcomes; overestimators were rated as significantly lower than all the other SOA categories (table 10.13). Underestimators were also perceived as achieving significantly higher leadership outcomes than in-agreement/good leaders. No other significant differences were found for EI and OL as per follower-ratings of the focal leaders in SOA categories.

[Please Turn Over]

Table 10.12: Planned Comparisons – Follower EI Ratings across SOA Categories of Focal Leaders

Comparison Test	Result	t-statistic	Significance p	Degrees of Freedom	Mean Difference	Cohen's d	Effect Size
				<i>df</i>			
H2.1: O < (U, IAP, IAG)							
Follower SUEIT							
O < U	O < U**	-3.05**	0.003	81	-21.34	0.89	Large
O < IAG	O < IAG (ns)	-0.89	0.38	81	-	-	-
O < IAP	O < IAP*	-2.48*	0.015	81	-18.68	0.78	Large
Follower EIQ							
O < U	O < U**	-5.49**	< 0.001	30.24	-34.73	1.61	Huge
O < IAG	O < IAG**	-2.77**	0.009	36.51	-23.21	0.98	Large
O < IAP	O < IAP**	-3.84**	< 0.001	44.01	-28.4	1.21	Very Large
H2.2: U > (IAP, IAG)							
Follower SUEIT							
U > IAG	U > IAG (ns)	1.75	0.08	81	13.93	-	-
U > IAP	U > IAP (ns)	0.38	0.7	81	2.66	-	-
Follower EIQ							
U > IAG	U > IAG (ns)	1.87	0.08	93	11.52	-	-
U > IAP	U > IAP (ns)	1.34	0.19	31.02	6.33	-	-
H2.3: IAG > IAP							
Follower SUEIT							
IAG > IAP	IAG > IAP (ns)	-1.34	0.19	81	-	-	-
Follower EIQ							
IAG > IAP	IAG > IAP (ns)	-0.72	0.48	28.09	-	-	-

Note: * = $p < 0.017$, ** = $p < 0.01$

O = Overestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.)

U = Underestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.)

IAG = In-Agreement/Good (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.)

IAP = In-Agreement/Poor (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.)

p = Significance

ns = not significant

Table 10.13: Results of Tests of Planned Comparison – Follower OL Ratings of Focal Leaders across SOA Categories

Comparison Test	Result	<i>t</i> -statistic	Significance <i>p</i>	Degrees of Freedom df	Mean Difference	Cohen's <i>d</i>	Effect Size
H2.4: O < (U, IAP, IAG)							
O < U	O < U**	-6.76**	< 0.001	31.27	-0.88	1.8	Huge
O < IAG	O < IAG**	-3.18**	0.003	36.64	-0.54	1.06	Large
O < IAP	O < IAP**	-4.93**	< 0.001	44.42	-0.75	1.44	Very Large
H2.5: U > (O, IAP, IAG)							
U > IAG	U > IAG*	2.7*	0.015	17.9	0.34	0.86	Large
U > IAP	U > IAP (ns)	1.32	0.2	32.31	-	-	-
H2.6: IAG > (IAP, O.), IAG < U							
IAG > IAP	IAG < IAP (ns)	-0.4	0.17	28.71	-	-	-

Note: * = $p < 0.05$, 0.017, ** = $p < 0.01$

O = Overestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.)

U = Underestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.)

IAG = In-Agreement/Good (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.)

IAP = In-Agreement/Poor (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.)

p = Significance

ns = not significant

10.13 CORRELATIONS

This section examines the correlation results between leader self-ratings on EI and follower-ratings as well as self-ratings of the leaders' on the various FRL factors.

Table 10.14 presents the correlation results between focal leaders' self-ratings of EI and leader self-ratings on TL, TrL and LFL; as well as, results of self-ratings of focal leaders' EI and follower-ratings of the focal leaders on TL, TrL and LFL. This table makes it possible to visually compare the similarities and differences between the SOA categories as well as EI self-ratings with the self and other-ratings of TL, TrL and LFL across the different SOA categories. Furthermore, these results also capture any correlation differences between EI and three leadership styles on the two EI models, SUEIT and EIQ. The most notable results have been highlighted in the paragraphs below.

[Please Turn Over]

Table: 10.14: Correlation Between EI Self-Ratings And FRL Follower-Ratings And Self-Ratings For Focal Leaders In SOA Groups

A) EI CORRELATIONS WITH TL										
EI Models (Leader Self-ratings)	Overall Follower-Ratings ^a (n = 97)	Follower Ratings				Overall Self-Ratings (n = 97)	Self-Ratings			
		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)
SUEIT	0.17	0.65**	0.52	0.61**	-0.04	0.62**	0.79**	0.6*	0.58**	0.54**
EIQ	-0.05	0.47*	0.59*	0.09	0.17	0.58**	0.69**	0.71**	0.01	0.54**
B) EI CORRELATIONS WITH TRANSACTIONAL LEADERSHIP										
EI Models	Overall Follower-Ratings ^a (n = 97)	Follower Ratings				Overall Self-Ratings (n = 97)	Self-Ratings			
		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)
SUEIT	0.02	0.07	-0.04	0.55*	-0.1	-0.02	-0.26	0.27	0.44*	-0.21
EIQ	0.06	0.004	-0.008	-0.14	0.16	-0.04	0.12	0.12	-0.18	-0.08
C) EI CORRELATIONS WITH LAISSEZ FAIRE LEADERSHIP										
EI Models	Overall Follower-Ratings ^a (n = 97)	Follower Ratings				Overall Self-Ratings (n = 97)	Self-Ratings			
		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)
SUEIT	0.03	-0.2	0.19	-0.21	0.25	-0.34**	-0.34	-0.3	-0.01	-0.42*
EIQ	0.04	-0.03	-0.173	-0.67**	-0.03	-0.51**	-0.57**	0.48	-0.37	-0.42*
NOTE: * = $p < 0.05$, ** = $p < 0.01$										
a. Includes all focal leaders										
b. Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.										
c. Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.										
d. Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.										
e. Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.										
f. Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings										

Table 10.14 revealed that both SUEIT and EIQ self-ratings have a significant positive correlation with follower-ratings of TL for overestimators. Similarly, significant positive correlations were found between both EI models and self-ratings of overestimating leaders' TL. However, in contrast, there were no significant correlations between self-ratings of the two EI models and the follower-ratings of TL for underestimators; yet, significant positive correlations were revealed between self-ratings of both EI models and self-ratings of TL for underestimators.

Leader self-ratings of SUEIT and self-ratings of TL showed no significant correlation for in-agreement/good leaders. However a significant positive correlation was found between the EIQ model and TL based on self-ratings. Therefore, for in-agreement/good leaders, different correlation results were yielded for the two EI models and TL. Furthermore, interestingly leader self-ratings for both the EI models revealed significant positive correlations with leader self-ratings of TL for in-agreement/good focal leaders. Therefore, it can be seen that self-ratings of EIQ significantly correlates to TL for in-agreement/good focal leaders based on both self and follower-ratings of TL (table 10.14).

For in-agreement/poor focal leaders, significant positive correlations were found for self-ratings of the SUEIT model and follower-ratings of TL as well as for self-ratings of SUEIT and self-ratings of TL. In contrast, no significant correlation was yielded for the EIQ self-ratings in connection with both follower and self-ratings of TL for in-agreement/poor leaders' (table 10.14).

Correlations of self-rated EI with follower-ratings of TrL and self-ratings of TrL were identical in terms of significance for all the SOA categories of focal leaders. The self-ratings of SUEIT revealed a positive significant correlation with both follower-ratings of TrL and self-ratings of TrL for in-agreement/poor leaders. None of the other SOA categories demonstrated any significant relationship between self-rated EI (on either model) and follower or self-rated TrL (table 10.14).

SUEIT (self-rated) correlations with LFL were non-significant for follower-ratings and self-ratings of LFL across all SOA categories. All the EIQ and LFL correlations were also insignificant with the exception of self-rated EIQ and follower-rated LFL

for in-agreement/poor leaders and self-rated EIQ and self-rated LFL for overestimators. Both these significant correlations were negative (table 10.14).

[Please Turn Over]

Table 10.15: Correlation between EI Self-Ratings and Follower-Ratings and Self-Ratings of Outcomes of Leadership for Focal Leaders in SOA Groups

A) EI CORRELATIONS WITH OUTCOMES OF LEADERSHIP										
EI Models	Overall Follower-Ratings ^a (n = 97)	Follower Ratings				Overall Self-Ratings (n = 97)	Self-Ratings			
		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)
SUEIT	0.13	0.524**	0.14	0.527*	-0.13	0.59**	0.75**	0.54*	0.54*	0.55**
EIQ	-0.01	0.38	0.24	0.42	0.08	0.59**	0.61**	0.77**	0.26	0.46**

NOTE: * = $p < 0.05$, ** = $p < 0.01$

- a. Includes all focal leaders
- b. Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.
- c. Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.
- d. Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.
- e. Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings

Table 10.15 presents the correlations between self-ratings on the two EI models and follower-ratings of OL as well as focal leaders' self-ratings of OL. Only the SUEIT correlated significantly with the follower-ratings of OL for overestimators and in-agreement/poor leaders. Both these correlations were positive. Correlations for the other two SOA categories were non-significant. Furthermore, correlations between EIQ and follower-ratings of OL were non-significant for all the SOA categories.

Interestingly, correlation results between self-ratings of EI and self-ratings of OL were contrary to the above results. Self-ratings of SUEIT demonstrated a significant and positive correlation with self-ratings of OL for all the SOA categories. Furthermore, self-ratings of EIQ yielded a significant and positive correlation with all the SOA categories except in-agreement/poor for which no significant association was found.

Interestingly, when EI was correlated with follower-ratings of OL for all focal leaders (irrespective of SOA categories) the result was non-significant for both SUEIT and EIQ. However, significant and positive correlations were yielded by both the SUEIT and EIQ models when correlated with self-ratings of the focal leaders (irrespective of SOA categories) (table 10.15).

10.14 CHAPTER CONCLUSION

This chapter has presented the data treatment techniques adopted and key results for focal leader self-ratings and their follower-ratings. In the process, focal leaders have been classified into SOA categories through appropriate calculations. This system of categorisation has been explained here including its criticisms and justification for use in this thesis. Data aggregation of follower-ratings has been conducted in this chapter following relevant rwg calculations (James et al., 1984). Thereafter, the frequency distribution and descriptive statistics for follower-ratings has been presented, followed by ANOVA, planned comparison and correlation analyses. This leads on to chapter 11 which expounds the data analysis (hypotheses testing) for the phase 2 data, concentrating on follower-ratings and self-ratings of focal leaders in SOA categories.

CHAPTER 11: DATA ANALYSIS – FOLLOWER-RATINGS OF LEADERS (PHASE 2)

11.1 CHAPTER INTRODUCTION

This chapter presents the data analysis pertaining to the hypotheses which have taken into account leader self-ratings and follower ratings of the focal leader. This chapter tests the hypotheses in order to support or refute them. These include comparing follower ratings of leaders EI across the various SOA categories as per the two EI models of SUEIT and EIQ, comparing follower views of their leaders' OL across the four SOA categories and examining the correlations between leader self-ratings of EI and follower-ratings of the leaders TL across the various SOA categories on both EI models. Furthermore, supplementary data analysis has been conducted to shed light on contradictory findings mainly in the correlation between EI and TL for in-agreement/good and in-agreement/poor leaders. Finally the level of social desirability bias across the SOA categories has been examined.

[Please Turn Over]

11.2 SUMMARY OF PHASE 2 HYPOTHESES

Table 11.1 summarises the hypotheses argued for phase 2.

Table 11.1: Phase 2 Hypotheses - Self-Ratings and Follower-Ratings of Leaders

NO.	HYPOTHESES – PHASE 2
COMPARING FOLLOWER PERCEPTIONS OF LEADER EI ACROSS SOA CATEGORIES	
H 2.1	‘Overestimators’ will have lower EI compared to the other SOA categories, as perceived by followers.
H 2.2	Underestimators’ will have higher EI than in-agreement/good and in-agreement/poor leaders, as perceived by followers.
H 2.3	‘In-agreement-good’ leaders will receive higher EI ratings from their followers than ‘in-agreement/poor’ leaders.
COMPARING FOLLOWER PERCEPTIONS OF LEADER OL ACROSS SOA CATEGORIES	
H 2.4	Overestimators will display lower OL scores as per follower ratings.
H 2.5	Underestimators will have higher OL scores than in-agreement/good and in-agreement/poor focal leaders, as per follower ratings.
H 2.6	OL scores will be higher for in-agreement/good leaders than in-agreement/poor leaders, as perceived by followers.
CORRELATIONS BETWEEN EI AND TL ACROSS SOA CATEGORIES	
H 2.7	Self-rated EI will be positively related to follower-rated TL for ‘in agreement/good’ leaders.
H 2.8	Self-rated EI will be positively related to follower-rated TL for ‘in agreement/poor’ leaders.
H 2.9	Self-rated EI will be positively related to follower-rated TL for those leaders who are ‘overestimators’.
H 2.10	Self-rated EI will be unrelated to follower-rated TL for those leaders who are ‘underestimators’.

11.3 PHASE 2 – HYPOTHESES TESTING

11.3.1 COMPARISON OF FOLLOWER PERCEPTIONS OF LEADER EI ACROSS TL SOA CATEGORIES

Table: 11.2 Planned Comparisons – Follower EI Ratings Across SOA Categories of Focal Leaders

Comparison Test	Result	t-statistic	Significance p	Degrees of Freedom df	Mean Difference	Cohen's d	Effect Size
H2.1: O < (U, IAP, IAG)							
Follower SUEIT							
O < U	O < U**	-3.05**	0.003	81	-21.34	0.89	Large
O < IAG	O < IAG (ns)	-0.89	0.38	81	-	-	-
O < IAP	O < IAP*	-2.48*	0.015	81	-18.68	0.78	Large
Follower EIQ							
O < U	O < U**	-5.49**	< 0.001	30.24	-34.73	1.61	Huge
O < IAG	O < IAG**	-2.77**	0.009	36.51	-23.21	0.98	Large
O < IAP	O < IAP**	-3.84**	< 0.001	44.01	-28.4	1.21	Very Large
H2.2: U > (IAP, IAG)							
Follower SUEIT							
U > IAG	U > IAG (ns)	1.75	0.08	81	13.93	-	-
U > IAP	U > IAP (ns)	0.38	0.7	81	2.66	-	-
Follower EIQ							
U > IAG	U > IAG (ns)	1.87	0.08	93	11.52	-	-
U > IAP	U > IAP (ns)	1.34	0.19	31.02	6.33	-	-
H2.3: IAG > IAP							
Follower SUEIT							
IAG > IAP	IAG > IAP (ns)	-1.34	0.19	81	-	-	-
Follower EIQ							
IAG > IAP	IAG > IAP (ns)	-0.72	0.48	28.09	-	-	-
Note: * = $p < 0.017$, ** = $p < 0.01$ O = Overestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.) U = Underestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.) IAG = In-Agreement/Good (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.) IAP = In-Agreement/Poor (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.) p = Significance ns = not significant							

Hypothesis 2.1: ‘Overestimators’ will have lower EI compared to the other SOA categories, as perceived by followers.

One-way ANOVA with planned comparison tests were conducted to test if overestimators had the lowest EI scores than the other SOA categories as perceived by their followers.

When EI was measured employing the SUEIT, significant results were achieved for overestimators receiving lower EI ratings than underestimators ($p < 0.017$) and focal leaders in-agreement/poor ($p < 0.017$). Overestimators also achieved lower SUEIT scores than in-agreement/good focal leaders according to follower-ratings. However, the mean difference between SUEIT scores for in-agreement/good leaders and overestimators was non-significant (table 11.2).

While measuring EI using the EIQ, overestimators received significantly lower scores than underestimators ($p < 0.017$), in-agreement/good ($p < 0.017$) and in-agreement/poor ($p < 0.017$) leaders (table 11.2).

On balance, it is concluded that the above results support H2.1.

Hypothesis 2.2: Underestimators' will have higher EI than in-agreement/good and in-agreement/poor leaders, as perceived by followers.

Using the SUEIT, underestimators received the highest ratings. One-way ANOVA with planned comparison tests revealed that underestimators received significantly higher EI ratings than overestimators using the SUEIT ($p < 0.017$) as per their follower perceptions. However, the results were non-significant when underestimator EI ratings were compared to ratings for leaders who were in-agreement/good and in-agreement/poor (table 13.11).

The above results were replicated using the EIQ, where underestimators displayed significantly higher scores than overestimators ($p < 0.017$). Furthermore, underestimators obtained the highest ratings as per the EIQ. Similar to the SUEIT, the EIQ ratings were non-significant when underestimator ratings were compared to scores of leaders who are in-agreement/good and in-agreement/poor (table 11.2).

Therefore, H2.2 received only partial support.

Hypothesis 2.3: 'In-agreement-good' leaders will receive higher EI ratings from their followers than 'in-agreement/poor' leaders.

Follower EI ratings of focal leaders ‘in-agreement/good’ were higher than overestimators and leaders in-agreement/good and lower than underestimators; however most of the planned comparison results were non-significant. EI ratings measured by SUEIT did not reveal any significant results for hypothesis 2.3. For EI ratings measured using the EIQ, follower EI ratings for focal leaders in-agreement/good was significantly lower than those for overestimators ($p < 0.017$). The rest of the comparisons with leaders in-agreement/good yielded non-significant results (table 11.2). Therefore, it is concluded that using the SUEIT H2.3 was refuted and using the EIQ, H2.3 received partial support.

11.3.2 COMPARISON OF FOLLOWER PERCEPTIONS OF LEADER OL ACROSS SOA CATEGORIES

Table 11.3: Results of Tests of Planned Comparison – Follower OL Ratings of Focal Leaders across SOA Categories

Comparison Test	Result	<i>t</i> -statistic	Significance <i>p</i>	Degrees of Freedom Df	Mean Difference	Cohen’s <i>d</i>	Effect Size
H2.4: O < (U, IAP, IAG)							
O < U	O < U**	-6.76**	< 0.001	31.27	-0.88	1.8	Huge
O < IAG	O < IAG**	-3.18**	0.003	36.64	-0.54	1.06	Large
O < IAP	O < IAP**	-4.93**	< 0.001	44.42	-0.75	1.44	Very Large
H2.5: U > (IAP, IAG)							
U > IAG	U > IAG*	2.7*	0.015	17.9	0.34	0.86	Large
U > IAP	U > IAP (ns)	1.32	0.2	32.31	-	-	-
H2.6: IAG > (IAP, O.), IAG < U							
IAG > IAP	IAG < IAP (ns)	-0.4	0.17	28.71	-	-	-
Note: * = $p < 0.017$, ** = $p < 0.01$ O = Overestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.) U = Underestimators (Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.) IAG = In-Agreement/Good (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.) IAP = In-Agreement/Poor (Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.) <i>p</i> = Significance ns = not significant							

Hypothesis 2.4: Overestimators will display lower OL scores as per follower ratings.

One-way ANOVA with planned comparisons (table 11.3) produced significant results showing that overestimators had the lowest OL scores among the four SOA categories, according to follower perceptions. Overestimators had significantly lower OL ratings than all other categories ($p < 0.017$). Therefore H 2.4 was supported.

Hypothesis 2.5: Underestimators will have higher OL scores than in-agreement/good and in-agreement/poor focal leaders, as per follower ratings.

Underestimators had the highest OL scores compared to the other SOA categories. One-way ANOVA with planned comparisons (table 11.3) produced significant results for underestimators receiving higher OL ratings than focal leaders who were in-agreement/good ($p < 0.017$). Underestimators also received higher scores than leaders who were in-agreement/poor, although this result was non-significant. Therefore, overall H2.5 was supported.

Hypothesis 2.6: OL scores will be higher for in-agreement/good leaders than in-agreement/poor leaders, as perceived by followers.

One-way ANOVA with planned comparison (table 11.3) showed that contrary to the hypothesis, in-agreement/good leaders had lower scores than in-agreement/poor leaders and the difference of these scores was not significant. Therefore, H2.6 was not supported.

[Please Turn Over]

11.3.3 THE RELATIONSHIP BETWEEN EI AND TL ACROSS SOA CATEGORIES

Table 11.4: Correlations between EI Self-Ratings and TL Follower-Ratings of Focal Leaders

CORRELATIONS BETWEEN EI SELF-RATINGS AND TL FOLLOWER-RATINGS OF FOCAL LEADERS					
EI Models (Leader Self-ratings)	Overall Follower-Ratings ^a (n = 97)	Follower Ratings			
		Overestimator ^b (n = 26)	Agreement (Good) ^c (n = 15)	Agreement (Poor) ^d (n = 23)	Underestimator ^e (n = 33)
SUEIT	0.17	0.65**	0.52	0.61**	-0.04
EIQ	-0.05	0.47*	0.59*	0.09	0.17

NOTE: * = $p < 0.05$, ** = $p < 0.01$

- Includes all focal leaders
- Includes focal leaders whose self-ratings of TL were one-half standard deviation above the follower-ratings.
- Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were above the follower-ratings grand mean.
- Includes focal leaders whose self-ratings of TL were within one-half standard deviation of follower-ratings and whose follower-ratings were below the follower-ratings grand mean.
- Includes focal leaders whose self-ratings of TL were one-half standard deviation below the follower-ratings.

Hypothesis 2.7: Self-rated EI will be positively related to follower-rated TL for ‘in agreement/good’ leaders.

In-agreement/good focal leaders’ EI self-ratings measured by the SUEIT demonstrated a non-significant positive correlation with follower-ratings of their TL (table 11.4). Therefore hypothesis 2.7 was rejected when EI was measured using the SUEIT.

As shown in table 11.4, when EI self-ratings were measured via the EIQ, in-agreement/good focal leaders’ EI self-ratings revealed a significant positive correlation with follower-ratings of their TL ($r = 0.59$, $p < 0.05$). Hence, when measuring EI with the EIQ; hypothesis 2.7 was supported.

Hypothesis 2.8: Self-rated EI will be positively related to follower-rated TL for ‘in agreement/poor’ leaders.

In-agreement/poor focal leaders' EI self-ratings as measured employing the SUEIT significantly correlated with their follower-ratings of TL ($r = 0.61, p < 0.01$). Employing the EIQ, for the same SOA category; focal leaders' EI self-ratings demonstrated a non-significant positive correlation (table 11.4). Therefore, on balance, this hypothesis 2.8 was partially supported.

Hypothesis 2.9: Self-rated EI will be positively related to follower-rated TL for those leaders who are 'overestimators'.

As shown in table 11.4, for overestimating focal leaders, EI self-ratings showed significant positive correlations with follower-ratings of their TL in both instances; where EI was measured using the SUEIT ($r = 0.65, p < 0.01$) and using the EIQ ($r = 0.47, p < 0.05$). Therefore, hypothesis 2.9 received full support.

Hypothesis 2.10: Self-rated EI will be unrelated to follower-rated TL for those leaders who are 'underestimators'.

For EI self-ratings measured via the SUEIT and the EIQ, it was found that underestimating focal leaders' EI self-ratings revealed non-significant correlations with follower-ratings of their TL (table 11.4). Therefore, hypothesis 2.10 received full support.

[Please Turn Over]

11.4 SUPPLEMENTARY ANALYSIS

To ensure totality of analysis some supplementary analysis has been conducted in phase 2 as well. This includes factor-wise correlations between leader self-rated EI and follower-rated TL for in-agreement/good and in-agreement/poor leaders which revealed contradictory findings for the two different EI models. Furthermore, differences in change involvement across the different SOA categories were investigated.

11.4.1 DETAILED EI AND TL CORRELATION FOR IN-AGREEMENT/GOOD LEADERS

The contradictory correlations revealed by the two different EI models with follower-rated TL for focal leaders in-agreement/good/poor (H2.7 and Q2.8), prompted an in-depth examination of the factor-wise correlations for self-rated EI and follower-rated TL for these two SOA categories. The results have been presented below in tables 11.5, 11.6, 11.7 and 11.8.

Table 11.5: Leader Self-Rated SUEIT and Follower-Rated TL For In-Agreement/Good Leaders

	Foll-rated II-A	Foll-rated II-B	Foll-rated II – Total	Foll-rated IM	Foll-rated IS	Foll-rated IC	Foll-rated TL
Self-rated Emotional Recognition/ Expression	0.09	0.36	0.28	0.22	-0.27	0.07	0.09
Self-rated Understanding Emotions External	0.4	0.48	0.47	0.29	0.21	0.41	0.61* <i>p</i> = 0.02
Self-rated Emotions Direct Cognition	-0.27	0.1	-0.03	-0.44	0.08	0.38	-0.01
Self-rated Emotional Management	0.49	0.66* <i>p</i> = 0.01	0.58* <i>p</i> = 0.03	0.57* <i>p</i> = 0.03	-0.06	0.27	0.56* <i>p</i> = 0.04
Self-rated Emotional Control	0.2	0.42	0.32	0.3	-0.1	0.02	0.24
Self-rated TOTAL SUEIT	0.27	0.67** <i>p</i> = 0.008	0.54* <i>p</i> = 0.05	0.27	-0.03	0.45	0.52
* <i>p</i> < 0.05, two-tailed							
** <i>p</i> < 0.01, two-tailed							
*** <i>p</i> < 0.001, two-tailed							

Table 11.6: Leader Self-Rated EIQ and Follower-Rated TL for In-Agreement/Good Leaders

	Foll-rated II-A	Foll-rated II-B	Foll-rated II – Total	Foll-rated IM	Foll-rated IS	Foll-rated IC	Foll-rated TL
Self-rated Self-Awareness	0.16	0.42	0.28	0.33	0.04	0.27	0.4
Self-rated Emotional Resilience	0.5	0.61* <i>p</i> = 0.02	0.57* <i>p</i> = 0.03	0.63* <i>p</i> = 0.01	0.29	0.33	0.66** <i>p</i> = 0.008
Self-rated Motivation	0.5	0.66** <i>p</i> = 0.008	0.58* <i>p</i> = 0.03	0.52* <i>p</i> = 0.05	-0.19	0.22	0.45
Self-rated Interpersonal Sensitivity	0.09	0.37	0.26	0.39	-0.1	0.24	0.36
Self-rated Influence	0.51	0.62* <i>p</i> = 0.02	0.58* <i>p</i> = 0.023	0.51	0.09	0.09	0.4
Self-rated Intuitiveness	-0.11	0.11	0.02	0.44	-0.28	-0.09	0.1
Self-rated Conscientiousness	0.35	0.44	0.43	0.35	0.22	0.29	0.46
Self-rated TOTAL EIQ	0.4	0.65** <i>p</i> = 0.009	0.55* <i>p</i> = 0.04	0.64* <i>p</i> = 0.01	0.0	0.27	0.59* <i>p</i> = 0.02
* <i>p</i> < 0.05, two-tailed							
** <i>p</i> < 0.01, two-tailed							
*** <i>p</i> < 0.001, two-tailed							

Tables 11.5 and 11.6 relate to hypothesis 2.7 which expected a positive association between self-ratings of EI and follower-ratings of TL for focal leaders ‘in agreement/good’. Although total self-rated SUEIT did not display a significant correlation with follower-rated TL, an in-depth analysis of the item-wise correlations revealed strong and significant, positive correlations between some of the SUEIT and TL factors. This is similar to the in-depth item-wise correlation results for EIQ and TL factors (table 11.6) where some item-wise correlations achieved significance and the rest were non-significant, despite the significant and strong positive correlation between total self-rated EIQ and total follower-rated TL.

Self-rated Emotional Management showed a strong correlation with follower-rated Idealised Influence – Behaviour and follower-rated Inspirational Motivation when SUEIT and TL items were correlated. The significant correlation between EIQ and TL was mainly accounted for by significant positive correlations between self-rated Emotional Resilience and follower-rated Idealised Influence – Behaviour, self-rated Emotional Resilience and follower-rated Inspirational Motivation, self-rated Motivation and follower-rated Idealised Influence – Behaviour, self-rated Motivation and follower-rated Inspirational Motivation, and finally by self-rated Influence and follower-rated Idealised Influence – Behaviour.

11.4.2 DETAILED EI AND TL CORRELATION FOR IN-AGREEMENT/POOR LEADERS

Table 11.7: Leader Self-Rated SUEIT and Follower-Rated TL - In-Agreement/Poor

	Foll-rated II-A	Foll-rated II-B	Foll-rated II – Total	Foll-rated IM	Foll-rated IS	Foll-rated IC	Foll-rated TL
Self-rated Emotional Recognition/ Expression	0.13	0.19	0.21	0.32	0.18	0.18	0.3
Self-rated Understanding Emotions External	0.5* $p = 0.02$	0.41	0.6** $p = 0.003$	0.33	0.1	0.2	0.39
Self-rated Emotions Direct Cognition	0.11	0.22	0.21	0.4	0.51* $p = 0.015$	0.37	0.51* 0.016
Self-rated Emotional Management	0.33	0.12	0.31	0.49* $p = 0.02$	0.03	0.19	0.31
Self-rated Emotional Control	0.41	0.24	0.44* $p = 0.04$	0.25	-0.24	-0.04	0.11
Self-rated TOTAL SUEIT	0.55* 0.01	0.45* 0.04	0.68* 0.001	0.66* 0.001	0.24	0.34	0.61** $p = 0.004$
* $p < 0.05$, two-tailed							
** $p < 0.01$, two-tailed							
*** $p < 0.001$, two-tailed							

Table 11.8: Leader Self-Rated EIQ and Follower-Rated TL - In-Agreement/Poor

	Foll-rated II-A	Foll-rated II-B	Foll-rated II – Total	Foll-rated IM	Foll-rated IS	Foll-rated IC	Foll-rated TL
Self-rated Self-Awareness	0.25	0.11	0.25	0.22	-0.15	-0.19	0.02
Self-rated Emotional Resilience	0.08	0.17	0.16	0.09	-0.11	0.19	0.12
Self-rated Motivation	0.32	0.35	-0.04	-0.16	-0.05	-0.14	-0.13
Self-rated Interpersonal Sensitivity	0.33	-0.04	0.22	0.15	-0.25	-0.012	-0.01
Self-rated Influence	0.24	-0.03	0.16	0.31	0.16	0.22	0.26
Self-rated Intuitiveness	0.06	-0.14	-0.03	-0.15	0.19	-0.22	-0.07
Self-rated Conscientiousness	0.52* $p = 0.01$	0.07	0.42* $p = 0.05$	0.27	0.08	0.13	0.29
Self-rated TOTAL EIQ	0.28	0.13	0.28	0.18	-0.06	-0.05	0.09
* $p < 0.05$, two-tailed							
** $p < 0.01$, two-tailed							
*** $p < 0.001$, two-tailed							

Tables 11.7 and 11.8 relate to question 2.9 which aimed to explore whether there was any significant relationship between self-rated EI and follower-rated TL of focal leaders in the in-agreement/poor SOA category.

Total self-rated SUEIT correlated significantly with total follower-rated TL, however the factor-wise correlation scores revealed the lack of consistent significant correlations between all the elements. Contrary to the SUEIT, total self-rated EIQ did not reveal a significant correlation with total follower-rated TL.

The significant positive correlation between self-rated total SUEIT and follower-rated total TL was mainly accounted for by the significant positive correlations between self-rated understanding emotions external and follower-rated idealised influence – attributes, self-rated emotions direct cognition and follower-rated intellectual stimulation, self-rated emotional management and follower-rated inspirational motivation, self-rated emotional control and total follower-rated idealised influence – attributes & behaviour.

Despite the lack of a significant correlation between self-rated total EIQ and follower-rated total TL; a strong significant positive correlation were found between self-rated conscientiousness and follower-rated idealised influence – attributes.

11.4.3 CHANGE INVOLVEMENT SUCCESS ANOVA TL SOA CATEGORIES

ANOVA results show that there was no significant difference between TL-SOA categories of overestimators/ in-agreement-good/poor/ underestimators on total change involvement and success in change implementation. This further confirms that all categories of leaders were equally involved in the change process.

11.5 SOCIAL DESIRABILITY BIAS IN THE DIFFERENT TL-SOA CATEGORIES

This thesis compared MCSDS ratings across TL-SOA categories and found that overestimators and in-agreement/poor were significantly different, with overestimators depicting the highest level of social desirability bias (SDB) and in-agreement/poor depicting the lowest level of SDB.

Table 11.9: ANOVA on MCSDS – SOA TL

Variable		F -ratio	Significance	Degree of Freedom		Eta Squared	Effect Size	Categories with Significant Differences	Mean Difference		Significance <i>p</i>
				df1	df2				Categories	Difference	
MCSDS	Leader Self-Ratings	2.97	0.04	3	92	0.09	Negligible	O > IAP	O > IAP	4.19	0.04
NOTE: na = not applicable ns = not significant O = Overestimators, IA(G) = In-Agreement (Good), IA(P) = In-Agreement (Poor), U = Underestimators											

11.6 CHAPTER CONCLUSION

This chapter has reported the outcomes of the hypotheses that have been tested. These have been summarised in the table below (table 11.9). In-depth analysis of the correlation between EI and TL for in-agreement/good and in-agreement/poor leaders showed that correlations between various EI elements and TL. Social desirability bias was found to be higher for overestimators than in-agreement/poor. There was no significant difference for the social desirability bias and the remaining SOA categories. The following two chapters discuss the findings of the data analysis chapters.

Table 11.10: Summary of Hypotheses Results

NO.	HYPOTHESES – PHASE 2	RESULTS	
COMPARING FOLLOWER PERCEPTIONS OF LEADER EI ACROSS SOA CATEGORIES			
H 2.1	‘Overestimators’ will have lower EI compared to the other SOA categories, as perceived by followers.	Substantially Supported with SUEIT	Supported with EIQ
H 2.2	Underestimators’ will have higher EI than in-agreement/good and in-agreement/poor leaders, as perceived by followers.	Partially Supported with SUEIT	Partially Supported with EIQ
H 2.3	‘In-agreement-good’ leaders will receive higher EI ratings from their followers than ‘in-agreement/poor’ leaders.	Not Supported with SUEIT	Partially Supported with EIQ
COMPARING FOLLOWER PERCEPTIONS OF LEADER OL ACROSS SOA CATEGORIES			
H 2.4	Overestimators will display lower OL scores as per follower ratings.	Supported	
H 2.5	Underestimators will have higher OL scores than in-agreement/good and in-agreement/poor focal leaders, as per follower ratings.	Supported	
H 2.6	OL scores will be higher for in-agreement/good leaders than in-agreement/poor leaders, as perceived by followers.	Not Supported	
CORRELATIONS BETWEEN EI AND TL ACROSS SOA CATEGORIES			
H 2.7	H 2.7: Self-rated EI will be positively related to follower-rated TL for ‘in agreement/good’ leaders.	Not Supported with SUEIT	Supported with EIQ
H 2.8	H 2.8: Self-rated EI will be positively related to follower-rated TL for ‘in agreement/poor’ leaders.	Supported with SUEIT	Not Supported with EIQ
H 2.9	H 2.9: Self-rated EI will be positively related to follower-rated TL for those leaders who are ‘overestimators’.	Supported with SUEIT	Supported with EIQ
H 2.10	H 2.10: Self-rated EI will be unrelated to follower-rated TL for those leaders who are ‘underestimators’.	Supported with SUEIT	Supported with EIQ

CHAPTER 12: DISCUSSION OF LEADERS SELF-RATINGS (PHASE 1)

12.1 CHAPTER INTRODUCTION

This chapter discusses the data analysis outcomes reported for phase 1 of this study, focusing on interpreting and explaining the findings for leaders' self-ratings. First the association between EI and leadership styles is explained, followed by a discussion of EI and TL's relationship with leadership outcomes. Thereafter, gender differences in EI and the three leadership styles in the FRL model are interpreted and discussed. These analyses relate to the phase 1 hypotheses. Finally interesting supplementary findings are discussed. Here, a rationale is put forward explaining the supplementary analysis comparing the association between the two EI models/psychometric instruments employed in this study. Furthermore, incremental predictive power of each EI model over the other for TL is discussed. Finally the effect of social desirability bias in this study is discussed.

12.2 THE CHANGE CONTEXT OF THE NHS

The NHS has been undergoing significant changes to its structure and systems of operations in recent years (Shapiro & Shapiro, 2003; Allen, 2009). Primary data collected for the study of this thesis has strongly evidenced this environment of dynamic transformations as discussed in chapter 2 based on the face-to-face interviews with various NHS employees. This evidence has been further substantiated by the quantitative information collected from both the leaders and followers who participated in the surveys (as explained in section 2.6) which showed that nearly all NHS employees were either involved in the change processes or were substantially affected by the transformations.

12.3 EMOTIONAL INTELLIGENCE AND TL

12.3.1 EMOTIONAL INTELLIGENCE AND TL – CORRELATION

The results of this study strongly supported the first hypothesis stating that total EI and TL scores would display a positive correlation (H1.1). This statistically significant positive relationship between EI and TL was obtained for both the psychometric instruments of EI – SUEIT and EIQ. This indicates that NHS leaders who received higher scores on the EI instruments also displayed higher levels of TL behaviour within the environment of change.

Supplementary analysis in section 9.5.1 investigating the spread of TL scores across various EI groupings of leaders with high, medium and low EI corroborated the findings that TL of leaders were higher for leaders with higher EI. It showed a steady increase in TL corresponding to an increase in EI on both the SUEIT and EIQ models.

The correlation results above, are consistent with two earlier findings of a strong association between EI using the SUEIT and TL using the MLQ; in very different settings and smaller samples (Gardner & Stough, 2002; Downey et al., 2006).

This thesis uses a much larger sample size of approximately 300 respondents compared to other studies and is located within England unlike the other studies. The results obtained here showing positive and significant correlations between EI and TL could be interpreted as implying that leaders within the NHS who are able to demonstrate strong EI ability as measured by the SUEIT will exhibit higher tendencies to be transformational leaders.

As expected, results of the SUEIT and TL correlations suggest that within the change environment, leaders who are better equipped to identify their own and others emotional status, effectively express emotions, recognise manifestations of others emotions, are adept at exploiting emotional information to take decisions, can effectively channel and regulate their own and others emotions and can deal with

strong emotional reactions to workplace events tend to engage in higher TL behaviour.

In this thesis all the TL and SUEIT components correlated positively and significantly with the exception of emotions direct cognition and idealised influence (attributes). Downey et al.'s (2006) all female sample had slightly different results with only understanding emotions, emotional management and emotional control showing significant positive correlations with all the TL components.

It is worth noting this lack of a significant correlation between emotions direct cognition and idealised influence attributes. This shows that the degree to which leaders employ emotions and emotional knowledge in reasoning and decision making (Gardner & Stough, 2002) are unrelated to the inherent attributes they possess to enable followers to feel pride to be acquainted to them, their propensity to work for the well being of the group, engaging in behaviour that gains them respect and their show of power and confidence (Avolio & Bass, 2004). It may be argued that these characteristics of idealised influence attributes would be manifested by virtue of being a leader in a change oriented environment or perhaps possessing these attributes would have contributed to these respondents reaching leadership positions. Leaders would be inherently confident, committed to the well being of the group and interested in gaining the respect of others. Therefore these attributes could be likened to personality traits and are not necessarily conscious decisions which may or may not need to incorporate emotions.

Vrba (2007) found significant correlations between EI and TL scales where EI was measured using the Emotional Intelligence Appraisal (EIA) survey with 61 South African first-line managers. Palmer et al. (2001) found significant correlations between several TL scales and EI as measured by a modified version of the Trait Meta Mood Scale (Salovey et al., 1995) with 43 participants satisfying management roles. Leban and Zulauf (2004) studied 24 project managers and discovered a significant association between overall EI as measured by the MSCEIT and three of the TL factors. These EI instruments, similar to the SUEIT do not explicitly include personality traits in the model they are measuring, satisfying the features of the ability stream of EI. Therefore, it would be safe to conclude, the stream of EI

comprising models that do not include personality traits within their parameters, have a strong association with TL.

As hypothesised there was a significant positive correlation between total EI as measured by the mixed-model measure EIQ and total TL. This suggests that within change oriented environments leaders who are aware of their feelings, capable of managing their emotions, able to perform under pressure, alter their behaviour to different circumstances, have the motivation and drive to achieve goals in the short and long run; engage in higher levels of TL behaviour. On the EI level, these transformational leaders are also able to consider the necessities and views of others in decision-making and problem solving, they can influence others to alter their views by considering their perception and integrating it with the rationale to transform, are able to make and implement clear decisions in the absence of complete information by taking into account emotional and intuitive factors (Higgs & Dulewicz, 2002). Leaders who are highly committed to chosen directions despite challenges and encourage others to be committed too are also likely to display TL dispositions.

Studies measuring another mixed-model of EI - the Bar-On EQ-i, found significant positive correlations between total EI and some of the TL factors (Hayashi & Ewert's, 2006, Sivanathan & Fekken, 2002, Barling et al., 2000) and EI and leadership behaviours (Butler and Chinowsky, 2006). Mandell and Pherwani (2003) also found a significant relationship between EQ-i and TL. Duckett and Macfarlane (2003) found a relationship between emotional quotient and TL where EI was ascertained employing the SMS EQ profile. The sample-size for most of these studies was less than 100.

However, Brown et al.'s (2006) study using a much larger sample size of 2,411 participants from the manufacturing industry and engineering industry and professional workers did not find support for a hypothesised relationship between EQ-i and TL. None of the EQ-i scales predicted a significant variance in any of the TL scales. In all the above cases, TL was measured via the MLQ as in the case of this thesis.

Findings from this thesis do not uphold Brown et al.'s (2006) findings. Results yielded between the EIQ and TL largely corroborate the positive association found between the EQ-i and TL.

The EIQ and TL correlations were significant for all the scales except the correlations of intuitiveness (EIQ) with intellectual stimulation (TL) and individualised consideration (TL). In a smaller non-NHS sample Mukhuty (2008) had also found that intuitiveness had a non significant relationship with TL elements of intellectual stimulation, individualised consideration as well as inspirational motivation and idealised influence – behaviours.

The EIQ scale of intuitiveness entails the competence to achieve clarity in decisions and facilitate their implementation by employing rational as well as emotional or intuitive viewpoints, while lacking complete and clear information. The TL component of intellectual stimulation focuses on inspiring and fostering follower engagement in innovation and creativity by challenging assumptions and existing practices. There is particular emphasis on not publicly criticising individual followers' errors. Problem solving entails a collective process including followers input. This collective and consultative approach to problem-solving is likely to lead to engaging in seeking clarity in information before making a decision. Thus this would disengage the leader from making intuitive decisions with ambiguous information. This could explain the lack of significant correlation between intuitiveness and intellectual stimulation.

Individualised consideration refers to the leaders' propensity to concentrate on every follower's requirements, their greater needs and welfare as well as facilitating the nurturance of their full potential. Arguably this would entail communicating with employees and obtaining a holistic picture of their needs and potential, thereby reducing the necessity to act upon incomplete and ambiguous information. Thus there is lesser likelihood of decisions about followers' welfare being founded upon incomplete data. This rationale provides support for the lack of significant correlation found between intuitiveness and individualised consideration.

Based on the significant positive correlations between SUEIT and TL and between EIQ and TL, as well as the significant difference in ANOVA tests of TL across high, medium and low EI leader groups; it may be concluded that within the change oriented NHS environment, possessing the abilities encompassed in the SUEIT model or being high on the EIQ factors appeared to co-exist with the leaders' proclivity to behave as a role model or 'ideal', their effectiveness in motivating others by providing meaning and challenge to their work; and tendency to nurture a positive environment of enthusiasm and a vision of an attractive future. They are high in stimulating their followers' creativity by encouraging them to question assumptions, reframe problems without the risk of being ridiculed or publicly criticised and can act as mentors or coaches to help develop and harness the potential of their followers.

12.3.2 EMOTIONAL INTELLIGENCE AND TL – PREDICTIVE ASSOCIATION

After controlling for gender and social desirability, regression analysis revealed that both SUEIT and EIQ displayed the power to predict variance in TL where SUEIT accounted for 29.4% variance in TL and EIQ explained 32% variance in TL. This provided support for H1.4 and confirms the power that different EI models have to predict TL.

The above findings support Downey et al.'s (2005) study finding that EI measures of the TMMS and SUEIT can predict TL behaviour and Gardner and Stough's (2002) results suggesting a predictive association between certain SUEIT and TL components.. However Downey et al. (2005) used only female respondents.

The above results also lend support to Mandell and Pherwani's (2003) exploratory results where TL could be predicted from EI scores on Bar-On's EQ-i with only 32 participants. Butler and Chinowsky (2006) also identified the predictive association between EQ-i and TL scores. There is a dearth of studies investigating the predictive efficacy of EIQ and TL. This thesis fills this gap and provides strong evidence showing that EIQ can significantly predict TL behaviours as perceived by the leaders

themselves. This shows that mixed-models of EI can be beneficially employed to help predict and enhance TL skills. This is advantageous as this study has also found a strong positive association between TL and leadership outcomes.

Earlier studies where EI was found to predict TL scores employed relatively small sample sizes of 32 (Mandell & Pherwani, 2003), 130 (Butler & Chinowsky, 2006), 176 (Downey et al., 2005), 110 (Gardner & Stough, 2002) participants. There was a need to replicate the above results using much larger sample sizes. This thesis satisfies this need and provides strong evidence for the predictive power of EI for TL as this hypothesis has been studied using a large sample of 309 participants comprising males and females as well as two different EI instruments.

These results show that if leaders have higher scores on EI, they are likely to engage in TL behaviours (as perceived by themselves) deemed suitable in change environments. Thereby EI could be perceived as an antecedent of TL. This empirically supports Barling et al.'s (2000) supposition that being emotionally intelligent would predispose leaders to be transformational. This is of high relevance to organisations undergoing change. TL has been established as highly conducive to dynamic environments (Brown, 1993; Eisenbach, Watson & Pillai, 1999). Therefore, the power of EI to account for variance in TL can serve as a strong tool to develop and enhance leadership ideal for changing environments within the organisational context.

Thereby the predictive association between EI and TL can have particularly important implications with respect to training and development provisions for leaders within the NHS. It can also be employed for recruitment and promotion purposes to help ascertain ideal work placements (Chrusciel, 2006). Dulewicz and Higgs (2004) provided evidence showing that with the help of training over six months, EI competencies on self awareness, interpersonal sensitivity, influence, motivation and emotional resilience increased significantly. Dulewicz et al. (2003) also highlight improvement in EI elements following EI training. They compared a control group (which received no EI training) with a 'training' group. The latter group which received training showed significant increase in EI scores after receiving training while the control group showed no differences. Other EI models

have also been used to ascertaining EI development through training (Weis et al., 2009; McEnrue et al., 2009; Turner & Lloyd-Walker, 2008, Groves et al., 2008). Therefore, it can be argued that investing in developing EI as conceptualised by Higgs and Dulewicz (2002) has the strong potential to enhance the manifestation of TL behaviours.

On a more specific level, it can be recommended that the NHS which is an organisation that continues to engage in transformations (Allen, 2009) since its inception could significantly benefit by investing in the development of EI in their leaders and managers at different levels. These results show that EI can play an important role in transformation decisions and change decisions necessary for organisations to maintain a competitive edge in the ever advancing business environment.

12.4 EMOTIONAL INTELLIGENCE AND TRANSACTIONAL LEADERSHIP

The postulation that EI and TrL will be unrelated only received partial support (H1.2). When total SUEIT and total EIQ were correlated with TrL, the hypothesis that EI and TrL will be unrelated was supported. Furthermore, supplementary analysis in section 9.5.2 showed that differences in TrL ratings were non-significant across the high, medium and low EI groupings on the SUEIT and EIQ models suggesting that EI does not influence TrL behaviours. This displays concurrence with the lack of significant correlation found between overall EI and TrL. However, closer investigation of the inter-scale correlations revealed interesting significant correlations. This has been discussed below.

All the SUEIT scales exhibited significant positive correlations with contingent reward (CR). SUEIT scales of understanding emotions external, emotional management and emotional control displayed highly significant negative correlations with management by exception – passive. SUEIT scales emotional recognition/expression and emotions direct cognition did not correlate significantly with management by exception-passive. Interestingly, emotional recognition/

expression and TrL sub-scale management by exception – active showed a significant negative correlation albeit at the significance level of $p < 0.05$.

All the EIQ scales displayed significant positive correlations with contingent reward, with the exception of intuitiveness. Significant negative correlations were also revealed between EIQ scales of self-awareness, emotional resilience, motivation, interpersonal sensitivity, influence and the TrL sub-scale management by exception – passive. There were no correlations between the EIQ scales of intuitiveness and conscientiousness and management by exception - passive. In addition, a significant positive correlation was revealed between conscientiousness and TrL component management by exception - active.

Palmer et al. (2001) also found significant correlation between contingent reward and EI measured using the TMMS, thereby highlighting the possibility that contingent reward might overlap with TL. Earlier studies have also brought into question the factorial structure of the MLQ (Carless, 1998; Bycio et al., 1995). Sivanathan and Fekken (2002) did not find any significant correlations between EI and TrL, while EI and TrL factor-wise correlations are unreported. Although Leban and Zulauf (2004) found correlations between MSCEIT components and passive management-by-exception, however, interestingly no significant correlations were reported between any MSCEIT component and contingent reward. Contrary to Leban and Zulauf (2004), Palmer et al. (2001) did not report any significant correlations between passive management-by-exception and EI using the TMMS, although positive correlations were found with contingent reward. Similarly, Downey et al. (2006) did not find any significant correlations between passive management-by-exception and EI, but significant positive correlations were observed with contingent reward. here EI was measured using the SUEIT and TMMS. Yet again, Gardner and Stough (2002) observed a positive association between contingent reward and all the SUEIT scales. However, no significant correlations were found between EI and any TrL components using the short version of EQ-i (Hayashi & Ewert, 2006).

Contingent reward entails clarifying objectives, rewarding achievements and praising triumphs of followers. This includes communicating expectations of followers and clarifying what they can expect in return for achieving the expected level of

performance. Thus in a way, contingent reward addresses the emotional psyche of the follower by providing recognition for success; and entails being aware of the needs of followers in order to clarify objectives and returns; thereby relating to the above-mentioned EI elements. In some ways, contingent reward could encompass aspects of individualised consideration, which has been found to be a strong correlate of both EI models. Therefore, the negative correlation obtained between EI factors and contingent reward, in this thesis, also lends support to earlier suggestions, that contingent reward may be a component of TL (Carless, 1998; Druskat, 1994).

As revealed by this study, negative correlations were also reported by Leban and Zulauf (2004) between two MSCEIT components measuring EI and passive management-by-exception (MBE-P). Similar negative correlations were also observed by Gardner and Stough (2002) using the SUEIT.

The interesting negative association between MBE-P and the EI elements may be explained by arguing that leaders who are aware of their own feelings, have the capacity to manage and control their feelings, recognise other people's feelings and are effective at addressing others feelings, will also be prone to taking charge of situations, in order to prevent upsetting or uncomfortable circumstances occurring. They will be more inclined to influence workplace environments and other individuals. People who can perform well in a range of situations and have the drive and energy to impact and achieve both short and long term goals will be less prone to adopting the attitude of 'if it aint broke, don't fix it'. Individuals, who can influence others, have the ability to listen to the needs of others and provide them appropriate rationale to change their viewpoints. Such people will be less prone to taking a laid back, hands-off approach till things go wrong. They are more likely to pre-empt problems and take precautionary actions. Therefore, being high on EI will reduce the propensity to engage in management-by-exception (passive) behaviours, thereby explaining the negative correlations with SUEIT and EIQ components.

12.5 EMOTIONAL INTELLIGENCE AND LAISSEZ-FAIRE LEADERSHIP

The hypothesis proposing no relationship between LFL and EI was not supported (H1.3). Correlation results indicated significant negative correlations between all the SUEIT scales and LF leadership. All the EIQ scales and LF leadership also revealed highly significant negative correlations with the exception of intuitiveness and LF leadership.

Furthermore, supplementary findings in section 9.5.3 also showed that overall LFL increased as EI decreased. LFL scores were decreased significantly across the EI groupings of leaders from low to high. This endorses the negative correlations found between EI and LFL showing that as EI increases, LFL behaviours decrease.

In contrast, Sivanathan and Fekken (2002) reported that there was no significant correlation between EI as measured by the EQ-i and LF leadership. However, Leban and Zulauf (2004) found a significant negative relationship between LF leadership and two EI components using the MSCEIT. Hayashi and Ewert (2006) also found a significant negative correlation between LF leadership and the intrapersonal skill of EI measured by the short version of EQ-i. Downey et al. (2006) also observed a negative association between LF leadership and most of the SUEIT and TMMS scales measuring EI. Gardner and Stough (2002) also discovered significant negative correlations between LF leadership and all SUEIT scales except emotions direct cognition.

Therefore the negative correlation found here, replicates some earlier findings albeit employing different measures of EI. These results could be explained by arguing that people who were sensitive to their own feelings and those of others, who can manage their own feelings, are motivated to achieve short and long term goals, are committed to a course of action will be more likely to have a hands on approach rather than remain oblivious and absent from all interactions with their followers. In all likelihood, they will be more interested and prefer to be more invested in the organisation and people. Hayashi and Ewert (2006) suggest ‘involved’ leadership

forms are more associated with EI development. Thus the more emotionally intelligent leaders are, the less they will engage in laissez-faire leadership behaviours. This definitely appears to be true for this NHS sample.

12.6 ANALYSIS OF OUTCOMES OF LEADERSHIP

12.6.1 EMOTIONAL INTELLIGENCE AND OUTCOMES OF LEADERSHIP

The hypothesis that EI will be positively related to OL was fully supported using both the SUEIT and EIQ measures (H1.5). Both SUEIT and EIQ displayed significant, positive and strong correlations with OL. Moreover, supplementary analysis in section 9.5.4 clearly found significant differences in OL scores across leader groupings of EI (low, medium and high EI). OL scores increased from low to high across the EI groupings from low to high for both the SUEIT and EIQ groupings. So, this study clearly demonstrates that higher EI in leaders could help to generate higher OL in terms of effectiveness, extra-effort and satisfaction (as perceived by leaders).

The above findings may be linked to Hong et al.'s (2010) research, evidencing an association between EI and motivation to lead. Higher effectiveness, leaders' propensity to invest extra-effort and yield higher satisfaction can be symptomatic of a high level of motivation to lead informed by EI. Furthermore, high EI leading to extra-effort and generating satisfaction could in turn augment leadership behaviours enhancing employee engagement (Xu & Thomas, 2011). The above findings also reinforce earlier research indicating a relationship between managers' EI and job satisfaction (Sy et al., 2006; Jordan & Troth, 2011). The role of EI elements in leadership effectiveness has been suggested earlier (Sosik & Megerian, 1999; George, 2000). This study provides strong empirical evidence of the ability of EI elements to act as a catalyst in leadership effectiveness and favourable outcomes endorsing Rosete and Ciarrochi's (2005) reports of a link between EI and leadership effectiveness studied using objective measures different to the ones used in this research. Abraham (1999) conceptually proposed that higher EI could lead to

enhanced performance levels. Higher EI leading to increased OL has a strong potential to enhance performance levels through appropriate investment in followers; thereby augmenting their commitment and satisfaction levels. Thus the above results in this study, corroborates research findings reporting a linkage between EI and performance (Langhorn, 2004; Carmeli, 2003).

12.6.2 TRANSFORMATIONAL LEADERSHIP AND OUTCOMES OF LEADERSHIP

H1.6 propounded a positive association between TL and OL which was fully supported as per correlations between TL and OL. This corroborates earlier findings that engaging in TL behaviours would yield high leadership outcomes as portrayed by effectiveness, extra-effort and satisfaction.

This finding is consistent with earlier evidence published showing a strong relationship between TL and OL factors (Bycio et al., 1995; Griffith, 2004; Brown et al., 2006). Over the years, most TL models have suggested higher resultant outcomes in particular satisfaction levels (Podsakoff, 1990). Moreover, some research has revealed a stronger positive association between TL and OL factors of extra –effort, effectiveness and satisfaction in comparison to TrL/LFL and OL (Limsila & Ogunlana, 2008; Judge and Piccolo, 2004). In addition, the OL factor of satisfaction was found to have a mediating effect between TL and voluntary organizational turnover intentions (Wells & Peachey, 2011). While it would be prudent to treat the above result with some degree of caution as both the TL and OL measures are part of the same instrument (the MLQ) and therefore a part of the strong correlation reported may be attributed to common-method bias; however, these results in the NHS environment help to corroborate earlier evidence of a positive relationship between TL and OL in different management environments (Limsila & Ogunlana, 2008; Felfe & Schyns, 2004). Therefore, based on the reported results it is contended that NHS leaders with higher TL will manifest higher achievements of organisational targets and addressing followers' needs; they will be able to generate greater follower satisfaction and will be able to successfully encourage followers to invest greater effort in achieving the NHS trust outcomes.

12.7 GENDER DIFFERENCES

According to Jogulu and Wood (2006), “The adoption of the transactional and TL styles into contemporary leadership theory provided a platform for observing gender differences in leadership styles.” (Jogulu & Wood, 2006: 243).

12.7.1 GENDER DIFFERENCES IN TL

Results of this study supported the hypothesis arguing higher TL ratings for female leaders than their male counterparts; by revealing that female NHS leaders had higher overall TL scores than male leaders (H1.7). MANOVA test results revealed that at the specific factorial level, this difference was accounted for mainly by the gender difference in individualised consideration.

Contrary to the above finding, many authors found no significant gender differences for overall TL of managers or leaders (Ayman et al., 2009; Behery, 2008; Mandell and Pherwani, 2003; Kouzes and Posner, 1999; Komives, 1991a). Kanter (1977) did not detect any differences in the leadership styles of men and women either. Eagly et al.’s (1995) meta-analysis showed that aggregated results including organisational and laboratory environments found equal effectiveness for male and female transformational leaders.

However, a subsequent meta-analysis of gender differences in TL scores revealed that female leaders were stronger on TL dimensions than their male counterparts Eagly et al. (2003). Schyn et al. (2008) found that females exhibited a preference for TL in comparison to other leadership styles in one sample. With a different sample however Schyn et al. (2008) found no difference in the self-rated TL scores of men and women. Rosener’s (1990) seminal study found that women used more TL styles than men. Burke and Collins (2001) found that both male and female leaders engaged in TL however, higher number of female leaders appeared to adopt TL than the male leaders.

Trinidad and Normore (2005) revealed that women engaged in democratic and participative leadership styles. TL emerged as the leadership style women favoured. According to Jogulu and Wood (2006) “women managers, on average, tend to be more transformational and more proactive in addressing problems” (Jogulu & Wood, 2006: 245).

Van Engen and Willemsen’s (2004) meta-analysis yielded mixed results although meta-analytical research has generally indicated that women are more active in emulating TL behaviours than men. After reviewing the literature, Kark (2004) argued that on balance it appeared that was a stronger inclination for women to be considered to be slightly more transformational. Alimo-Metcalfe and Alban-Metcalfe (2006) point out that in general, there appears to be the propensity for women to depict leadership features in terms of TL and men to detail leadership in terms of TrL. They also assert that women were perceived to employ more TL behaviours than men irrespective of the gender of the rater. However a number of studies have shown that women are better in TL than men. TL has also been proven to yield more favourable outcomes than TrL which is seen as a predominantly masculine domain of expertise (Tucker et al., 2006).

At the specific dimensional level, the results in this study revealed significantly higher female scores on individualised consideration. This corroborates earlier results. Antonakis et al. (2003) and Eagly and Johannesen-Schmidt (2001) found in separate studies, that higher scores were achieved by women on the TL component of individualised consideration than men. Antonakis et al. (2003) reviewed different studies and observed that women tended to display more individual consideration and men engaged more in management-by-exception. Similarly, Carless (1998) found that based on self-ratings, female leaders displayed higher TL than their male counterparts; however, on the specific factorial level it was noticed that female leaders achieved higher scores only on the interpersonally-oriented items of individualised consideration.

Mathis (2007) reiterates that while compared to male leaders, women are relatively new to leading organisations, however women have been in leadership positions since time started while running households, raising families, sometimes single-

handed without any help from partners. In these roles they have significantly demonstrated TL skills. This would have involved paying attention to the welfare of individual family members, linking with individualised consideration. Mathis (2007) challenges the perspective whereby female leaders are traditionally dismissed within organisational contexts through male dominance.

Bass et al. (1996) point out that TL can be intuitively associated with feminine stereotypes and the behavioural expectations from women in leadership roles. Essentially TL builds on empowering followers, inspiring them to deliver beyond their anticipation, and focus on collective working practices. Women's tendency to nurture others, communicate effectively and strive to ensure positive relationships have been likened to TL (Amos-Wilson, 2000; Alimo-Metcalf, 1998; Bass, 1990; Rosener, 1990). One viewpoint, suggests TL should be perceived as a feminine form of leadership to be employed by both men and women. Carless (1998a) and Druskat (1994) align TL with feminine leadership styles. Van Engen et al. (2001) also observed that many authors like Carless (1998) and Yammarino et al. (1997) explicitly call TL a feminine leadership style. In some ways, adopting TL may assist women in overcoming the challenge of 'role-incongruity' (Eagly et al., 2003) where women are expected to emulate feminine, caring, interpersonal traits however effective leaders are expected to be agentic, task-oriented and performance driven.

Leadership is inherently a gendered notion. The prototypical feminine leadership style is expected to build on people-orientedness and interpersonal relationships; while the prototypical male leadership style thrives on task-orientedness, structures, performance and achievement of targets (van Engen et al., 2001). These prototypical notions are informed by societal and stereotypical concepts of women being sensitive, warm, expressive and men being instrumental, rational, assertive, competent (van Engen et al., 2001). Aldoory & Toth (2004) conclude, "Women who are moving up into management positions may need to seriously consider the complexities of enacting a feminine, a masculine, or a mixed style of leadership, depending on circumstances" (Aldoory & Toth, 2004: 180).

Bass (1999) captures the different arguments around TL, female leaders and the progression of women in the workplace. While some argue that women have to be

better than men to reach the same top levels in the hierarchy and success levels which men reach. Simultaneously, some argue that TL research and new legislation have led to some level of affirmative action helping women reach top levels. Nonetheless, the glass ceiling is still firmly in place although women have entered first and middle level management.

Neuhauser (2007), Barbuto Jr et al. (2007) and Mandell & Pherwani (2003) highlight the lack of conclusive evidence regarding gender differences in effective leadership styles. Vecchio (2002) claims some of Eagly and Carli's (2003) arguments of gender differences as being exaggerated nonetheless, overall, research does imply that TL behaviours are manifested more often by female leaders (Kark, 2004; Alimo-Metcalf, 2006; Bass, 1999). Bass (1999) reviewed two decades of research and development in TL and acknowledged that on balance, studies tended to indicate that women appeared to be more transformational than men. This is corroborated by the findings in this study where female NHS leaders were reported to be more transformational than male leaders in the NHS.

12.7.2 GENDER DIFFERENCE AND TRANSACTIONAL LEADERSHIP

Additional findings in section 9.4.3.1 showed that there was no significant gender difference in the overall TrL scores; however male leaders in the NHS appeared to engage significantly more in management-by-exception (passive) than female leaders. There were no significant mean differences in the other TrL factors.

Antonakis et al. (2003) also reports that men scored higher on TrL components of management-by-exception (passive); however women scored higher on the TrL component of contingent reward. Eagly et al. (2003) also reported similar results. Van Engen et al. (2001) found no gender differences in task-oriented leadership, which relates to TrL. In contrast, Behery (2008) found no significant gender differences in the TrL of managers. This study did not find any gender difference in contingent reward or total TrL scores similar to Behery (2008). While Behery (2008) and Dubinsky et al. (1995) say that amongst individuals working in sales or directly

with customers, gender does not affect leadership. The participants in this study were NHS staff, who directly managed staff under them and a faction of these staff being nurses, consultants and as managers also worked directly with customers and external clients, which may partially support the argument that TrL is unaffected by gender when the leaders are focussed on customers.

The emergence of leadership in men was strongly manifested in task oriented interactions (Eagly & Karau, 1991) and the Great Man Theory propagating traditionally masculine traits like being agentic, autocratic, penalising, task focussed traits defined essentially in masculine terms (Jogulu & Wood, 2006). Men appear to associate the use of power and direct styles with TrL. Men are less focussed on relational styles than women (Komives, 1991a). Women favour participative and democratic styles while men are more instrumental and are likely to lead in an autocratic, directive, task focussed manner while (Eagly & Johnson, 1990; Eagly & Karau, 1991).

Management by exception (passive) involves corrective actions by the leader only when mistakes have happened, there has been non-compliance (Antonakis et al., 2003) and goals have not been met. The leader intervenes to fix things by making use of penalties and disciplinary threats to bring up standards (Avolio & Bass, 2004). This type of behaviour is inherently in conflict with the interpersonal, caring behaviour of women and the results here definitely show that female leaders adopt this leadership style significantly less than male leaders.

Alimo-Metcalfe and Alban-Metcalfe (2003a) showed that men were more inclined to adopt management-by-exception where they would only intervene if things went wrong or would wait for things to go wrong (*if it ain't broke, don't fix it*). Societal expectations, would have also contributed to men displaying a higher level of management by exception (passive) where men are not expected to be interpersonal and are expected to be instrumental, punishing for mistakes (wait till daddy comes home syndrome). Thus men perhaps emulate these traits with relative ease. Traditionally leadership has been associated with men – autocracy, autonomy, making the final decision and so on. This also supports the results showing higher scores for men than women on management-by-exception (passive). Antonakis et al.

(2003) explain that women might have a stronger sense of justice and ensure clarity and fairness in understanding agreements by everyone. Men's proclivities to be agentic, instrumental, exchange-oriented, exercise power are considered TrL qualities (Amos-Wilson, 2000). This supports the higher male scores on management by exception (passive), found here.

TrL entails "competitiveness, hierarchical authority and high control for the leader and analytical problem solving" (Klenke, 1993: 330). Jogulu and Wood (2006) emphasises the word 'control' as an essential aspect of traditional masculine leadership (Jogulu & Wood, 2006). In contrast female leaders thrive on cooperation, collaboration, dissipated control, intuitive and rational problem-solving (Klenke, 1993).

TrL may also be referred to as authoritative leadership, stereotypically a masculine leadership style. This is characterised by "certainty, clear direction, personal oversight, and perceptions of "just" treatment" (Aldoory & Toth, 2004: 159 citing Cruz et al., 1999). This 'just' position entails the leader receiving quality performance or productivity in exchange for pay or benefits. The leader's position, is the 'right' position irrespective of other viewpoints (McWhinney et al., 1997); and underlines management by exception (passive) behaviours.

Therefore, findings in this study, confirm that NHS male leaders engage significantly more in management-by-exception (passive) than females. No differences were found on the other TrL components. This finding compounded with the higher TL scores for female NHS leaders lead to the conjecture that female leaders are more proactive in leading within changing work-environments.

12.7.3 GENDER DIFFERENCES IN LAISSEZ-FAIRE LEADERSHIP

LFL allows followers to perform with minimum interference from the leader. Here the leadership is manifested in the lack of leadership where the leader does not make decisions, accept accountability, or display authority. By implication, such leaders

would have lower confidence levels to lead their staff and engage in interactions with them (Bass, 1990). This style was also conceptualised in the masculine domain, simply due to the existence of very few women in leadership roles at the time of its conceptualisation by Stogdill (1970) (Jogulu & Wood, 2006).

The results of this thesis showed no gender difference in the LF leadership scores (section 9.4.3.2). Gibson (1995) also found no gender influence on LF leadership measured using Flamholtz's (1986) Leadership Effectiveness Questionnaire. Contrary to these findings, Antonakis et al. (2003) and Alimo-Metcalfe and Alban-Metcalfe (2006) found that men scored higher than women leaders on LF leadership using the same MLQ as this study. The meta-analysis by Eagly et al. (2003) also showed a greater propensity by male leaders to engage in LF leadership than females.

The participants in this study were NHS staff in leadership positions significantly embroiled in the management and implementation of changes and transformations in the organisation which demands active leadership to be effective; therefore, it may be argued that LF leadership is probably not a preferred leadership style for either male or female leaders in the NHS; thus not demonstrating significant gender differences.

In concluding the section on gender differences in leadership, it is worth noting that there is a noticeable trend where women score higher on TL and the contingent reward element of TrL. In contrast men score higher on management by exception and LF leadership. The NHS participants in this study however showed higher TL scores for women, no gender differences on contingent reward or LF leadership and higher male scores for management by exception (passive). These results contribute to confirming earlier TL and management by exception (passive) results; increase inconclusivity on TrL and LF leadership and overall augments the unresolved debate on gender differences in the FRL model.

12.7.4 GENDER INFLUENCE ON EMOTIONAL INTELLIGENCE

This thesis showed that overall EI as measured by the SUEIT demonstrated significant gender differences, with women scoring higher than men. However, overall EI as measured by the EIQ did not reveal any significant gender differences. Hence, inconclusive results were revealed for the hypothesis suggesting a demonstration of higher EI by women than men (H.1.8).

At the factorial level, MANOVA tests revealed that females scored significantly higher than males on the SUEIT factors of emotional recognition / expression, understanding emotions external and emotional management. No significant gender differences were found on the other SUEIT factors. Consistent with the overall EIQ results, no gender differences were uncovered at the factor specific level for EIQ.

To the best of the author's knowledge no study has reported any gender differences in the EI scores on the EIQ. No gender differences were found using the Bar-On EQ-i (Bar-On et al., 2000; Dawda & Hart, 2000). The EIQ has been declared to be similar to Bar-On's EQ model (Higgs and Dulewicz, 2002). Therefore, the result obtained using the EIQ is consistent with earlier findings using similar mixed-models of EI. Goleman's (1998c) study showed no differences in the EI scores of male and female managers.

Dimitriadis (2007) found no association between gender and EI using the SSREIT²⁹ (Schutte et al., 1998) self report measure based on Salovey and Mayer's (1990) ability-based EI model. Tsaousis's (2003) Emotional Intelligence Questionnaire based on Mayer et al. (2000) ability EI model showed no significant gender differences in overall EI scores either.

Contrary to the above studies, women exhibited higher scores than men on the ability EI measured by the MSCEIT (Brackett et al., 2006; Mayer et al, 2000). The former MSCEIT version (MEIS) also demonstrated that women had higher scores (Ciarrochi et al., 2000; Mayer et al., 1999). Mandell and Pherwani (2003) discovered that

²⁹ Schutte Self-Report Emotional Intelligence Test

female managers scored significantly higher in EI, using the EQ-i, than male managers. Adeyemo (2008) unearthed higher EI in females using the Work Group Intelligence Profile (Jordan et al., 2002) where gender was able to predict EI to a small extent³⁰. Similarly, women scored higher than men on self-estimated EI [modelled on Dulewicz and Higgs' (1998) content analysis of EI] (Petrides & Furnham, 2000; Petrides et al., 2004). Additionally, participants, irrespective of their gender rated their mothers as more emotionally intelligent than their fathers (Petrides et al., 2004).

Morand's (2001) study used photographs of universal emotions from Ekman and Friesen's (1975) "The Face of Emotion" to study an aspect of Mayer and Salovey's (1993) ability model of EI, namely 'appraisal of emotion in others'. In this test, females were more accurate in guessing the emotion captured in the picture than men. Morand's (2001) study might be argued to be closer to the ability model of EI.

Notwithstanding the above, males displayed higher EI than females (Fatt and Howe, 2003; Fatt, 2002) using "The Emotional IQ Test" (<http://www.eiconsortium.org>) measuring the earlier ability based model of EI (Mayer and Salovey, 1997); Lyusin (2006) employed the EmIn³¹ questionnaire representing a mixed-model of EI and also found that men had higher scores on 'managing own emotions' and 'controlling expressions'. On the personality based trait EI measure TEIQue men displayed significantly higher overall EI scores (Mikolajczak et al., 2007).

Further to the above, some studies revealed mixed results on the EI factors. Linvingstone and Day (2005) discovered no association between gender and the EQ-i scales with the exception of 'interpersonal skills' ($r = 0.18$). There was also no association between gender and the MSCEIT with the exception of 'Emotional Perception' ($r = 0.24$). Dries and Pepermans (2007) study using the Bar-On EQ-i revealed higher EI scores for women on the subscales of 'empathy' and 'interpersonal relationships'. However they did not find this difference in total EQ-i.

³⁰ Gender and working experience collectively predicted 7.3% of EI.

³¹ EmIn – Emotional Intelligence

Von Stumm et al. (2009) used Goleman's (1995) mixed-model of EI, and found that French and Iranian women reported significantly higher scores than men; while no significant differences were reported by UK participants. This aligns with the results, this study found for gender differences using the EIQ.

Joseph and Newman's (2010) meta-analysis revealed higher aggregate scores on performance-based ability EI tests. However, they did not find any gender difference in the aggregated EI scores of self-report measures of ability EI or self-report mixed EI measures. Results found using the mixed EI measure of EIQ corroborates Joseph and Newman's findings. However, the SUEIT which is classifiable as a self-report measure of ability EI contradicts Joseph and Newman's (2010) results. It is worth noting that the SUEIT was not included in Joseph and Newman's (2010) meta-analysis.

Gender differences of EI models are yet unresolved and the evidence is inconclusive. A clear lack of consistency is visible in the above information. The same EI instrument has displayed overall gender differences in some studies and no difference in others. If a gender difference exists, then in the huge majority of cases women have displayed higher EI. Nonetheless, a couple of studies found men reveal higher EI. An attempt was made here to investigate whether there was a distinctive trend between the mixed EI models and ability models of EI or between the objective EI measure and self-report measures. However, such clear distinctions were undecipherable due to the inconsistent results.

It is worth noting that Arteché et al. (2008) summarised differently and argued that mostly ability measures of EI (using objective performance tests or vignettes as opposed to self-reports) have found women to be superior in EI; notwithstanding, overall, self-report measures of EI have been unsuccessful in confirming female superiority of EI. Arteché et al. (2008) highlighted that the literature demonstrates that women may display higher EI scores on self-report measures. The overview of results from other studies presented above, do not lend full support to Arteché et al.'s (2008) view. However, when the results of gender difference in EI from this thesis are considered in isolation, it may be argued to lend some support to Arteché et al.'s (2008) suggestion. The EIQ is more overtly associated with personality factors and is

a self-declared mixed-model (Higgs and Dulewicz, 2002) and does not show any significant gender differences. On the other hand, while SUEIT does show some correlations with the Big Five personality factors (Palmer & Stough, 2004); conceptually it is akin to the ability stream of EI and clearly depicts significantly higher scores for women with respect to the overall EI score as well as the three factors of emotional recognition/expression, understanding emotions external and emotional management. Therefore, while most models of EI are complementary, these results also strongly indicate that the different EI models have a significant element of distinctiveness in them.

This study found significantly higher scores for women on the SUEIT factors of emotional recognition/expression, understanding emotions external and emotional management. Emotional recognition/expression entails the ability to perceive and recognise what one's own feelings and emotions are and being able to engage in appropriate expression of those feelings to other people. The significantly higher scores by women can be explained by highlighting that females report higher effectiveness than men on self-recognition of feelings, awareness, understanding and appreciation of the feelings of others (Arteche et al., 2008). Women were also more capable of labelling their emotions than men on tests of alexithymia (Bagby et al., 1994). Thayer and Johnson (2000) found women to be more adept at perceiving and differentiating the varied emotions observed. Women tend to employ a more emotionally expressive vocabulary (Brackett et al., 2006). They demonstrate co-operation, contribution to their social group; and being able to develop and retain mutually satisfying associations (Arteche et al., 2008). They have better communication skills and are better able to manifest their emotions. Women are more emotionally aware, empathically expressive and interpersonal (Bar-On, 1997).

Understanding emotions external encompasses recognising and comprehending the emotions of other individuals and emotional states resulting from the workplace atmosphere, interactions with work colleagues and so on. It entails effectively 'reading' others emotions and understanding the impact of emotions on the organisation. Research evidence shows that women have a greater capacity to 'read' non-verbal and facial expressions of emotions (Brackett et al., 2006). Stereotypically women are better disposed to identify emotions and psychologically analyse people's

behaviours (Lyusin, 2006). Lyusin (2006) pointed out that women engage in a more 'intuitive' understanding of emotions while men engage in a more 'rational' understanding of emotions. Thayer and Johnson's (2000) research found women to be more attuned to emotion perception. Mehrabian et al., (1988) found women to be more empathetic. This would enable women to be more adept at accurately deciphering other people's emotional states and its impact.

Emotional management comprises managing and suitably channelising positive and negative emotions in oneself and other people. It includes the ability to repair negative moods and emotions and fostering and enhancing positive emotions among people and the organisation. Adeyemo (2008) attributes the gender difference in EI scores to the socialisation process where females are expected to emulate empathetic, sympathetic, social skills classified as 'nice' and males are expected to display a 'manly' disposition and pursue life goals more aggressively. Research on gender stereotypes suggest that the female gender is expected to be affectively-oriented by being interpersonally superior and displaying care towards others (Brody & Hall, 1993; Eagly and Karau, 2002). Women have also been stereotypically credited to manipulate others' emotions (Lyusin, 2006). They are also considered more adept than men in certain EI components like 'empathy' and 'social skills' and men may be more adept at certain others like 'motivation' and 'self regulation' (Mandell and Pherwani, 2003). This would have contributed to women scoring higher on emotional management in this study.

The inconclusive and inconsistent results on gender differences in self-rated EI, also point to the possibility that EI in men and women could be moderated by a range of external factors like age, language (Mikolajczak et al., 2007), culture, background, nationality, previous experiences (Fatt & Howe, 2003), self enhancing versus self derogatory bias of men and women (Petrides, 2000), dominant gender of the work environment, confidence issues, self expectations (Mikolajczak et al., 2007) and so on. Therefore, the "question of gender differences in exhibiting emotional and social intelligence competencies remains a contested area for further exploration" (Hopkins & Bilimoria, 2008: 29).

12.8 SUPPLEMENTARY FINDINGS

12.8.1 SUEIT AND EIQ ASSOCIATION

12.8.1.1 EXPLAINING RESULTS GENERATED BY THIS THESIS

The results of this study generated significant positive associations between the majority of the SUEIT and EIQ factors. This helps confirm theoretical arguments that the various models of EI are complementary (Ciarrochi et al., 2000). Interestingly, the SUEIT dimension of emotions direct cognition revealed negative significant correlations with the EIQ elements of emotional resilience and conscientiousness. The correlations were non-significant between emotions direct cognition and EIQ elements of self awareness, motivation and influence. Correlations were also non-significant between SUEIT component emotional recognition/expression and EIQ elements of intuitiveness and conscientiousness. The remaining factors displayed significant positive correlations. The magnitude of most of the significant correlations may be defined as small to moderate ranging from 0.1 to 0.6. Total SUEIT and total EIQ revealed a reasonable correlation of $r = 0.615$, $p < 0.001$. This r value which is near the value of 0.7 indicates that the two instruments are not the same but have concurrent validity and measure similar constructs (Kline, 2000). These results show that while the two psychometric instruments are measuring related constructs, the object of measurement is not identical. This provides evidence indicating that the SUEIT and EIQ are measuring unique yet complementary models of EI.

While this thesis is more concerned about identifying the association between these EI models and leadership conducive to change; it is worth taking into account the various favourable, unfavourable as well as controversial opinions that have been put forward regarding EI models. Nonetheless, this thesis is not aiming to critique the two EI measures, rather test the two models and their influence on change leadership.

Christie et al. (2007) employed Wong and Law's (2002) EI instrument based on the MSCEIT model of EI to test whether motivation is indeed a sub-component of EI. Christie et al. (2007) found that motivation is linked to EI; however it does not form

a part of EI as measured by ability EI founded significantly on cognitive capabilities. This supports the non-significant correlation found between emotions direct cognition (SUEIT) and motivation (EIQ).

Joseph and Newman (2010) in a meta-analytic study found that emotion perception ability was positively related to conscientiousness where conscientious people were considered “thorough, organized, methodical, cautious and careful” (McCrae & Costa, 1992 cf. Joseph & Newman, 2010: 58). Higgs and Dulewicz (2002) define conscientiousness as commitment to chosen paths in challenging circumstances and functioning with integrity and consistence. Results here, support Joseph and Newman’s (2010) findings as this study found a small correlation between conscientiousness (EIQ) and understanding emotions external ($r = 0.184, p < 0.01$) which entails perceiving emotions in others; however this thesis did not find a significant correlation with emotional recognition / expression which entails a perception of one’s own emotions. It is likely that Joseph and Newman (2010) did not study emotional perception of self and others as two separate facets and therefore did not generate the differential results obtained here.

Emotions Direct Cognition entails taking into account emotions while making decisions and solving problems. Conscientiousness encompasses commitment to an action path in difficult and challenging situations by aligning to ethical practices. By definition, Emotions Direct Cognition draws on cognitive elements whereas Conscientiousness represents a personality aspect. A closer investigation of the items comprising the two scales could shed more light on their similarities/dissimilarities; however the EIQ factor components are not available in the public domain.

The results from this study suggest that while there may be similarities between self report ability measures of EI and mixed-models of EI due to common method bias; the two models do have some unique variance. It is also worth noting that the theoretical constructs of the SUEIT strongly align with the MSCEIT and face validity shows that none of the SUEIT dimensions are explicitly non-cognitive or personality facets. However, the SUEIT was developed through a factor analytical study of mostly ability based models of EI [MSCEIT, TMMS, TAS – 20; Scutte et al’s (1998) EI scale and Tett et al’s (1997) EI scale] as well as one mixed-model of

EI – Bar-On’s (1997) EQ-i. Therefore, it is possible that certain aspects of a mixed-model EI may have found its way into the SUEIT items. Table 12.1 compares the essential characteristics of SUEIT and EIQ.

Table 12.1: Comparison of Comparing SUEIT and EIQ

DIMENSION OF COMPARISON	SUEIT	EIQ
Style of Reporting	Self-Report and 360 Degree Reporting	Self-Report and 360 Degree Reporting
Ability Based Factors	Emotional Recognition and Expression, Understanding Others Emotions, Emotions Direct Cognition, Emotional Management, Emotional Control	Self Awareness, Emotional Resilience, Interpersonal Sensitivity
Personality Based Factors	-	Motivation, Influence, Intuitiveness, Conscientiousness and Integrity.
EI Stream Aligned With	Ability Stream	Mixed-Model Stream
Development System	Factor-analytic study reviewing existing EI instruments	Literature review of all the existing EI models
Reliability Statistics – Cronbach Alpha (Reported by Developers)	0.88	0.77
Reliability Statistics – Test Retest (Reported by Developers)	0.95	-
Reliability Statistics – Cronbach Alpha (Reported by this Study)	0.91	0.81
Reliability Statistics – Test Retest (Reported by this Study)	0.73	0.57
Type of Environment/ People Created for	Workplace Environment	Workplace Environment
Gender Differences	Females scored higher	No difference between male and female scores

12.8.1.2 DIFFERENT EI MODELS

Researchers have suggested different classification systems for EI models and measures (Daus & Ashkanasy, 2005; Mayer et al., 2000; Pertrides & Furnham, 2001; Joseph & Newman, 2010). The first classification separates ability EI models and mixed EI models. Ability models are essentially based on Mayer et al.'s (2000) four branch model of EI conceptualised on the cognitive aspects of emotional phenomena. This entails processing emotion related information, recognising and controlling emotions founded on mental aptitudes (Christiansen et al., 2010; Joseph & Newman, 2010). In contrast, mixed EI models include cognition and personality. In some cases, they do not include cognitive aspects as in Bar-On's (1997) but heavily draw upon personality aspects related to emotions (Leary et al., 2008; Conte, 2005; Van Rooy & Viswesvaran, 2004). This classification has also referred to as ability EI and trait EI (Pertrides & Furnham, 2001; Day & Carroll, 2008).

Zeidner et al. (2004) authors differentiate between mixed EI models and the emotional competencies model presented as learned capabilities (Boyatzis, 1982; Goleman, 2001). Ashkanasy and Daus (2005) recognise this as a more appropriate label distinguishing between EI and emotional competencies.

Van Rooy et al. (2005) classified EI based on how they are measured, mainly performance based measures and self-report measures. In performance based tests, the questions contain pre-set multiple choice answers and the selected responses are scored as correct or incorrect (Joseph & Newman, 2010). These tests entail a scoring system where answers are matched against preset external criteria (Christiansen et al., 2010). In self-report measures, respondents provide self-ratings on likert scales. Van Rooy et al. (2005) classified only the performance based EI measures as representing ability EI, i.e. MEIS and MSCEIT. They classify all self-report EI models as mixed-models (Van Rooy et al., 2005) although some self-report measures are developed to represent the ability EI model.

Some redress has been provided to the above classification by categorising EI models based on the 'construct' of the model and 'method' of measurement which they refer to as construct-method pairings (Joseph & Newman, 2010; Ashkanasy &

Daus, 2005). This gives rise to three distinct groups: performance based ability EI (Stream 1), self-report or peer-report ability EI (Stream 2) and self report mixed EI (Stream 3). There are no performance based measures of mixed EI. This thesis finds this classification more useful and appropriate. In this study, the EIQ is classifiable as a measure of a mixed-model of EI and the SUEIT is classified as a self-report measure of ability EI.

12.8.1.3 LINK BETWEEN DIFFERENT EI MODELS

Van Rooy et al.'s (2005) meta-analysis aggregated all self-report measures and performance based ability EI measures and found some convergence between both groups ($\rho = 0.14$), although more divergence than convergence was found. Joseph and Newman's (2010) meta-analysis showed a corrected correlation of ($\rho = 0.12$) between self-report EI ability measures and performance-based EI measures. Davies et al. (1998) reported correlation scores ranging from -0.13 to 0.15 on the TMMS (arguably self-report ability EI) and MEIS (performance-based ability EI) with an average correlation of 0.02. Brackett and Mayer (2003) correlated the MSCEIT v2 with the self-report SREIT (Schutte et al., 1998) yielding a correlation of 0.21 and EQ-i (Bar-On, 1997) producing a correlation of 0.18. Brackett et al. (2006) compared the MSCEIT and a Self-Rated EI Scale (SREIS) mapping onto the MSCEIT and found a significant and relatively small correlation ($r = 0.19$). Overall, the correlations between performance based EI and self-reported ability EI appear to be low.

Joseph and Newman's (2010) also found that the correlation between self-report ability EI and self-report mixed EI measures was a lot higher at 0.59. The two self-report EI measures EQ-i and SREIT correlated at 0.43 (Brackett & Mayer, 2003). Joseph and Newman (2010) discovered a weak association between performance based EI measures and self report EI measures (0.12); which they interpreted to imply that performance based ability measures and self report based ability measures were actually studying two separate constructs. This is surprising as the two set of measures are supposed to measure the same construct. They also found low correlations between self-report mixed EI and performance based ability EI measures

(0.26). They argued that these results show that self-report mixed EI models are distinct from performance based ability EI (Joseph & Newman, 2010). However, it is worth noting that the correlation of performance based ability EI is higher with mixed EI measures than self-report EI measures. Intuitively this is an unusual result; as the self-report ability EI measures and the performance based EI measure represent the same or conceptually highly similar model of EI – the ability EI model.

Notwithstanding, the above correlations between self-report ability EI and mixed EI are corroborated by the strong and high correlation between overall EI scores in the SUEIT and EIQ ($r = 0.615, p < 0.001$) found in this thesis. However some of the individual components did not correlate at all, particularly Emotions Direct Cognition. For the components that did correlate, the individual factor-wise correlations ranged from 0.1 to 0.6 indicating that while the two measures might be similar; they are also distinct from each other.

12.8.1.4 ISSUES BETWEEN EI MODELS - CRITICISMS

The total SUEIT and total EIQ ($r = 0.615, p < 0.001$) correlation yielded in this study, also provides some support to the Van Rooy et al.'s (2005) argument where they combine all self-report EI measures/models into one category. In addition, logically and by definition, this should not be the case as the two sets of measures are developed to test distinct conceptualisations of EI; one with predominantly cognitive elements and one where cognitive elements if present are shared with personality or trait factors. Dedicated studies are needed to understand why self-report ability EI and self-report mixed EI show a high level of convergence and how much of this convergence is explained simply by common-method variance.

Self-report ability EI measures may also be criticised for their potential susceptibility to social desirability bias and the inherent paradox of rating one's own intelligence levels (Matthews et al., 2006 & Joseph & Newman, 2010). Self-report measures rely to great extent on the candour of the respondent (Christiansen et al., 2010) in responding honestly. Mixed-models like the EQ-i are more susceptible to faking in selection settings (Day & Carroll, 2008). Hence, it is important to pay attention to the

context in which these instruments are employed (Zeidner et al., 2004). These instruments promise to be very beneficial in training, development, professional development and research settings. These instruments may also find some use in clinical settings. However, caution should be exercised while using these instruments in recruitment and selection settings. Nonetheless, it is worth noting that most self-report psychometric instruments do account for social desirability bias. Additionally the MCSDS may be administered in conjunction with EI tests to gauge social desirability bias, as has been done in this study.

Joseph and Newman (2010) point out there is increasing research into what mixed EI is not, but very little study on what mixed EI actually is and it's utility. Joseph and Newman (2010) conclude that one of the key advantages of mixed EI models could be to "shed greater light on noncognitive constructs (other than Big Five personality) that predict job performance" (Joseph & Newman, 2010: 72). The same rationale has been applied in this thesis, by the proposition that self-reported ability EI and mixed EI models could play a significant role in predicting leadership conducive to high performance and productivity in organisations.

Caution should however be exercised in considering the performance based EI measures as authoritative on EI measures. Perez et al. (2005) criticise the preset objective system of assigning supposedly 'correct' answers in the MEIS and MSCEIT measures (Mayer et al., 2002). The MSCEIT scoring is based on consensus and expert scoring. Therefore, the 'correct' answers have been established by the maximum number of responses received to an item in the normative sample. So, "if a respondent chooses 'B' and 41% of respondents in the normative sample also chose 'B', the participant receives a score of 0.41 for that item" (Christiansen et al., 2010). The criticism against this system is that relatively difficult items might be correctly answered only by test-takers with extremely high EI. So, if the test contains items designed to differentiate between EI scores in the upper range and extremely high EI scores; the system of consensus scoring would defeat this purpose as people in the normative sample would not have selected the answer truly representing extremely high EI very frequently; thereby assigning a lower score to that answer. Therefore if a person with extremely high EI selects that answer they stand to receive a lower than average score while actually being rather highly emotionally intelligent. This

could lead to a rather odd and inaccurate outcome with individuals who are very high in EI being evaluated as lower in EI and people with average levels of EI being adjudged as being rather high in EI (Roberts et al., 2001; Matthews et al., 2002; Conte, 2005; Christiansen et al., 2010). This consensus-based scoring system has been argued to be a valid method by Mayer et al. (2001) and they have provided some evidence of convergence between the ‘consensus’ and emotional ‘expert’ scores. However, the expert-based scoring has also been criticised, questioning the criteria that makes someone an expert in emotions/emotional intelligence (MacCann et al., 2003; Matthews et al., 2002). Furthermore, Mayer et al (2000) correlated the MSCEIT with its earlier version MEIS to demonstrate validity, making it desirable to have more validity tests. Moreover, this is not the usual methodology for creating performance based measures of intelligence and therefore may not necessarily be an accurate test of EI (Christiansen et al., 2010). The test creators should be able to demonstrate *a priori* knowledge of the construct and provide a rationale for specific items representing the different dimensions during test creation. Without *a priori* understanding, the need for consensus and expert scoring emerges. It is important that the test creators know which items are related to higher and lower elevations to ensure robust test development (Jackson, 1971 as quoted in Christiansen et al., 2010). Conte’s (2005) criticism against the MSCEIT is the non-existence of ‘objective’ factors providing the foundation to justify the ‘correct answers’ on the MSCEIT. In addition, the ability measure MSCEIT has been argued to lack sufficient predictive validity (McEnrue & Groves, 2006; Brody, 2004). While theoretically the ability model of EI is considered robust and purer (Daus & Ashkanasy, 2005), the measure is perceived as lacking face and predictive validity (Cartwright & Pappas, 2008).

12.8.1.5 FURTHER RESEARCH REQUIREMENTS ON EMOTIONAL INTELLIGENCE MODELS AND CLASSIFICATIONS

It is possible that common method bias is contributing a lot to the correlation between self-report ability EI measures and self-report mixed measures. Furthermore, a number of the core EI elements overlap with each other in both sets of instruments, in particular EI aspects of perceiving, understanding and expressing

emotions. However, it could be argued that perhaps after all self report measures of ability EI are a more accurate reflection of individuals' EI. Further research is needed on the structure and construct validity of self-report ability EI measures and self-report mixed EI models (Barchard & Hakstian, 2004; Joseph & Newman, 2010). Valuable knowledge could also be created by devising measures/studies capturing the cross fertilisation between emotional ability and acting on this ability (Opengart, 2005) in the workplace.

Cartwright and Pappas (2008) emphasises the necessity to resolve the dispute over different EI models. While ability models maybe theoretically purer their face validity is debatable. EI measures including competency frameworks demonstrate greater face validity and appear to have better predictive validity of workplace performance (Dulewicz et al., 2003; Cartwright & Pappas, 2008). Ciarrochi et al. (2000) strongly point out that the different models of EI are built on similar foundations. However, there is clearly a need to establish clear boundaries between self-report ability EI and self-report mixed EI, study their properties and utility; as currently the boundaries between these two are rather blurred. Murphy (2006) also recommends 'cleaning up' the various EI definitions. Nonetheless, it cannot be said that self-report EI measures and mixed EI models are measuring the same 'type' of EI as they are clearly built on EI models with some similarities and some dissimilarities. Further in-depth research is required to shed light on the elements on convergence and divergence between self-report ability EI measures and self-report mixed EI measures. Some of the items on the self-report ability EI measure may be similar to motivation or personality traits rather than ability (Joseph & Newman, 2010). However, robust research is required to confirm or refute this proposition. Cronbach (1949) indicates that performance-based measures indicate maximal performance whereas self-report measures shed light on typical performance (Cronbach, 1949 cf. Mikolajczak et al., 2007; MacCann et al., 2003). This author believes that there is a place and use for all three forms of EI in the workplace and the important task at hand is to identify the appropriate utility of all the models. This echoes assertions that neither stream nor group of EI models are implicated as inferior, instead "models may have utility and the relative value of each could depend on the context in which it is used" (Van Rooy et al., 2005: 457). Furthermore,

longitudinal research may help clarify the utility of the various EI models (Van Rooy & Viswesvaran, 2004).

12.8.2 EMOTIONAL INTELLIGENCE MODELS AND TRANSFORMATIONAL LEADERSHIP – INCREMENTAL PREDICTIVE POWER

Notwithstanding the above discussions, this thesis is more interested in studying whether EI can predict change leadership components of the FRL model during change. It aligns with the perception of EI “as a way to explain incremental variance in important organizational outcomes” (Ashkanasy & Daus, 2005). Predictive validity refers to the degree to which a test can predict a different outcome (MacCann et al., 2003).

As per table 9.18, the regression analysis showed that EIQ was a stronger predictor of TL scores than SUEIT. Section 9.4.2 demonstrated that EIQ predicted 9.2% incremental variance in TL over and above SUEIT. The SUEIT explained an additional 6.6% variance in TL, over and above the EIQ. Thus, both instruments were able to predict a certain level of incremental variance in leadership. This confirms Cartwright and Pappas’s (2008) conjecture that the EIQ is believed to depict higher job-related validity compared to other mixed EI measures.

Joseph and Newman (2010) found that mixed EI models demonstrated the strongest correlation with job performance followed by self-reports of ability EI and then performance based ability EI measures. This is supported by the results in this thesis, where the mixed-model EIQ showed greater incremental validity than the self-report ability measure of SUEIT. Joseph and Newman’s (2010) finding might be used to argue that mixed-models are more effective in predicting external organisational criteria; which may be extended to leadership.

It has been suggested that performance-based ability EI is more effective in demonstrating criterion-related validity for job performance in jobs with excessive interpersonal and emotional requirements (Christiansen et al., 2010). It may be

observed that the MSCEIT has provided incremental validity mostly in clinical, social, romantic relationship contexts. Some studies show the MSCEIT providing incremental validity including stress management and leadership potential (Brackett et al., 2006).

Lindebaum (2009) found that after applying rigid methodological standards to control for common method variance, trait EI did not significantly correlate with TL or performance indices in the construction industry where only men comprised the sample. In addition the construction industry is strongly characterised by transactional relationships, short –term pressures where EI may not necessarily be beneficial. Therefore, clearly the criterion and predictive validity of EI is susceptible to the context and nature of the industry (Lindebaum, 2009).

EIQ measures the mixed-model of EI which extends the ability model of EI to prominently include certain personality factors as well. The ability stream of EI claims to be distinct from personality factors, however most self report measures of EI appear to display some correlations with personality factors. The SUEIT has displayed some of the lowest correlations that have been reported between self report EI measures and normal personality; suggesting that SUEIT is measuring a unique and self contained construct (Palmer et al., 2003). However, it should be noted that the MSCEIT which is considered a key ability model of EI has also been found to display positive correlations with certain big five factors and cognitive ability (*g*) (Schulte et al., 2004). The literature has shown that personality factors can be related to engaging in TL behaviours (Bono & Judge, 2004; Hautala, 2006), which may also be a contributory factor for EIQ making a higher unique contribution to predicting TL scores than SUEIT.

However, the most imperative implication of the above results is that both the SUEIT and the EIQ measure EI models that strongly influence and impact on TL within change environments. The above results and arguments may be used to indicate that both the SUEIT and EIQ satisfied criterion-related validity with the NHS population. Therefore, both models can potentially play a significant role in assisting the effective development of TL behaviours within change oriented organisations.

12.9 EFFECT OF SOCIAL DESIRABILITY

Supplementary analysis in section 9.6.2 examined the possible influence of social desirability bias on the correlation test results. Partial correlations controlled for the impact of social desirability bias. This, when compared with zero-order correlations showed no difference with the correlations in terms of significance, direction and strength. The exact value of the correlation was altered minutely in some cases. This showed that impact of social desirability was minimal to nil in this study.

12.10 CHAPTER CONCLUSION

This chapter has discussed the findings for phase 1 of this study. This chapter articulates how EI can make a positive influence in generating TL behaviours which in turn helps in implementing and managing change. The individual EI components have a strong role in fostering leaders who act as role models, mentors, pay individualised attention to their followers and encourage innovative and creative thinking from followers. This study found evidence supporting the belief that being emotionally intelligent can lead to higher TL behaviours particularly within a change environment. Being more emotionally intelligent also associated positively with contingent reward propensities of TrL whereby leaders make pre-arranged agreements with their followers in exchange for delivering transactions and meeting targets. Being more emotionally intelligent also appeared to correspond with a marked reduction in the TrL constituent of management-by-exception (passive) whereby leaders only engage when there is a problem with a view to imposing penalties and do not engage in constant monitoring. Greater EI also corresponded with lower LFL reflecting that being more emotionally intelligent would engender active and involved leadership behaviours as opposed to be an absentee leader.

Being emotional intelligent has also been found to be related to enhanced leadership behaviours leading to greater efforts being invested by the leaders, leaders being more effective and yielding higher levels of satisfaction encapsulated as OL. Higher TL also appeared to associate with these OL traits. Thus it has been argued that

sufficient evidence has been generated in this study to warrant investment in the training and development of EI in leaders particularly to ensure the smooth functioning of organisations encountering dynamic change like the NHS.

Furthermore, higher TL for female leaders corroborates earlier findings whereby females have been found to be more competent and transformational leaders. This suggests that female leaders might be better suited than their male counterparts to lead dynamic transformations in organisations like the NHS. This conjecture is endorsed by the emanation of higher EI by female leaders as per the SUEIT, as it has already been reasoned that higher EI yields higher TL behaviour. However, EI as measured by the EIQ found no difference in the EI between male and female leaders. Nonetheless, neither model portrayed male leaders as conveying higher EI than females. Hence, on balance, female leaders appear to have higher EI prowess than males. This does make a favourable case for employing more female leaders in managing and implementing change or at least ensuring equality in male and female leaders at the top to cultivate effective leadership and support for workers encircled by dynamic organisational change as in the NHS.

Moreover, the contradictory findings for gender differences for EI as measured by the SUEIT and EIQ resurfaced the debate on the differences between the various EI models and their measures. The differences in the factorial constitution and psychometric properties have been attributed the discrepancy in gender differences. The EIQ measures a more personality oriented (mixed-model) model of EI whereas the SUEIT factors may be argued to measure a purer and more authentic model of EI, closer to the original model of EI proposed by Mayer and Salovey (1997) and measured by the MSCEIT. This thesis has shed further light on the similarities and differences between the SUEIT and EIQ models of EI. This study found a significant overlap between the SUEIT and EIQ models of EI. While the correlation was strong enough to suggest that similar constructs were being measured, yet it was below 0.7 indicating that it was not one and the same model. This study also revealed that both these models were able to induce TL behaviour independent of each other to a small degree. Additionally, both models forecast a significant percentage of variance in TL; however, interestingly EIQ appeared to have a stronger influence on TL which has been attributed to the model being combined with personality traits. The model

also comprises a greater number (and some very different) factors compared to the SUEIT model. Therefore, it may be safely reasoned that there are factorial and psychometric differences in the two EI models and these differences define variances in the way these models interact with other psychological and behavioural constructs. The strong evidence uncovered by this study regarding the potential of the EI models to impact TL has portrayed an optimistic future for the training, development and effective inculcation of EI in leaders tasked with the challenge of furthering change.

Having discussed the implications of the phase 1 data analysis on leader self-reports; the following chapter discusses the interpretations and implications of the analysis of the combined self and follower-ratings of focal leaders in SOA categories.

CHAPTER 13: DISCUSSION OF COMBINED LEADER AND FOLLOWER-RATINGS OF LEADERS (PHASE 2)

13.1: CHAPTER INTRODUCTION

This chapter essentially discusses the phase II results entailing focal leaders' self-ratings and follower-ratings of their leaders. Occasionally cross-references have been made to the phase I results and discussion chapters to strengthen the arguments presented. Finally, this chapter closes with an overall discussion synthesising the phase I and phase II findings.

Moshavi et al. (2003) called for a need to investigate the variables and processes which may contribute to the difference in perceptions between leaders and followers, especially variables which cause overestimation in leaders. Moshavi et al. (2003) also recommend subdividing the in-agreement category into in-agreement/good and in-agreement/poor and comparing performance levels. They expected in-agreement/good leaders to show higher performance than in-agreement/poor and underestimators. Furthermore, Moshavi et al. (2003) suggest the need to study SOA categorisations of leaders and performance in a variety of sectors. They concentrated on the manufacturing sector. Moshavi et al. (2003) suggested different patterns of results may be yielded in different sectors like retail and service. Therefore, the evidence and interpretations generated in this PhD is of high value as it pertains to the unique sector of the NHS.

It is worth noting that, self-ratings typically shed light on how individual's reflect on or perceive their inner selves. Other-ratings essentially capture how others perceive and reflect on the focal individual. Self-ratings have been highly criticised as being inflated (Vecchio & Anderson, 2009), however the system of studying SOA shows that self-ratings are not necessarily inflated, they are often in agreement and often suffer from underestimation and are therefore deflated rather than inflated and are not always influenced by social desirability.

The results of this thesis in relation to SOA categories based on TL have helped endorse and extend earlier studies and theories on SOA and outcomes. This study has

examined SOA categories in relation to EI. This thesis pioneers research on EI using two standard psychometric instruments of EI in the arena of SOA categorisations of leaders. There is only one older study (Sosik & Megerian, 1999) that attempted to study EI within the SOA context of leaders, however this study only used proxy measures of EI and did not use the full recommended range of SOA categorisations (Atwater et al., 2005). Very recently a second study attempted to study only the self-awareness components of EI on SOA categorisations and performance (Bratton et al., 2011), however this study encompasses studying all aspects of EI going much beyond the scope of self awareness and furthermore the measures, analysis techniques and focus of the 2011 study is different to this one (Bratton et al., 2011).

Parts of the second phase of this study has built on Sosik and Megerian's (1999) study and has employed the full range of the four SOA categories, overestimators, in-agreement/good, in-agreement/poor and underestimators unlike Sosik and Megerian (1999) who did not differentiate between good and poor in the in-agreement category.

In some cases, results from this thesis have supported earlier postulations and in other cases the results have refuted and conflicted with existing theories in the context of EI, leadership and SOA. This sheds light on the potential of different EI measures to yield different results and their applicability in different contexts.

13.2 LEADER EMOTIONAL INTELLIGENCE: COMPARISON OF FOLLOWER PERCEPTIONS ACROSS SOA CATEGORIES

13.2.1 OVERESTIMATORS, THEIR EI AND ITS IMPLICATIONS

This study revealed that followers perceived the overestimators to possess lower levels of EI compared to the other TL-SOA categories (H2.1). Followers adjudged overestimators as significantly less emotionally intelligent than underestimators and in-agreement/poor leaders, using the SUEIT. On the EIQ model as well, followers

evaluated overestimators as being significantly less emotionally intelligent than all the other SOA categories.

Therefore on balance, this study showed that followers perceived overestimators as significantly less emotionally intelligent than other focal leaders. Furthermore, the effect size of these differences were large, very large or huge demonstrating a substantially low magnitude of EI for overestimating focal leaders based on their followers' perspectives. These results are arguably crucial to effective change leadership behaviour in dynamic organisational environments, suggesting that overestimators are not necessarily equipped with the desirable level of EI to incorporate and manage dynamic change.

This evidence for overestimators displaying the lowest levels of EI shows that individuals who tend to perceive themselves as higher on TL than their followers do; are also undervalued on their EI by followers. This could be symptomatic of overestimating leaders' deficiency in displaying adequate compassion and EI in their interactions with followers. Receiving the lowest EI ratings from followers also indicates inadequate abilities to comprehend the emotional experiences of followers.

Change leaders can be effective in implementing and managing change through effective negotiation (Kainen, 2010). Effective negotiations in turn can be strongly enhanced by leaders who possess higher levels of EI as they can particularly engage in recognising others' emotions and channelising their own emotional expressions appropriately according to both the SUEIT and EIQ models (Palmer et al, 2001; Higgs & Dulewicz, 2002). On the brighter side, leaders with low EI would be less demoralised by rejection or failure (Higgs & Dulewicz, 2002). Therefore, it could be argued that leaders with low EI would reject others' ideas/proposals without hesitation or thought of the impact of these actions on the emotions of other people. This ties in with Yammarino and Atwater's (1997) observation that overestimators can be antagonistic, begrudging, intimidating and confrontational.

Furthermore, Sosik and Jung's (2003) study on impression management showed that superiors and subordinates perceived overestimators as using more intimidating behaviours than underestimators. Intimidation would have a detrimental impact on

followers' motivation to work for the organisation as well as loyalty and trust towards their leader, particularly within an environment endemic with change. Being highly emotionally intelligent enables a leader to address these issues, however the lack of it demonstrated by overestimators towards their followers do not necessarily make them effective leaders within workplace environments endemic with change. Thereby overestimators might be prone to fuelling conflict through their low EI. Mueller and Curhan (2006) found that the ability to understand one's own and others emotions enhanced the outcome satisfaction of their counterpart as a result of a negotiation session. The lower levels of EI discovered for overestimators in this study also implies that overestimators struggle to react to non-verbal messages/cues from followers and consider themselves to be effective.

Skilful comprehension of followers' emotional circumstances can be key to managing and facilitating change within organisations. Leaders need to effectively 'read' followers emotional expressions as well as react appropriately through their verbal and non-verbal behaviour. The low EI scores awarded to overestimators by their followers could be reasoned to suggest that these focal leaders need better skills in neuro-linguistic programming. A more caring and committed approach to followers is necessary for effective change incorporation, management while maintaining the motivation and productivity of the organisation. Therefore with low EI and an intimidating disposition, overestimators can be argued to be ineffective negotiators in furthering the organisational change programmes and canvassing follower support for these changes.

Ashford (1989 as cited in Moshavi et al., 2003) has indicated that followers' decisions regarding whether they will follow a particular leader depends on their perceptions of the focal leader. The low EI ratings for overestimators indicates that they struggle to recognise, acknowledge and manage their emotions in relation to decision-making and the process of achieving organisational targets. They may display a preference for formalised structures and procedures. This propensity could generate a high degree of personal stress (Higgs & Dulewicz, 2002).

Sosik (2001) found contrary results to this study when overestimators were rated by their superiors as opposed to subordinates. Superiors perceived overestimators to be

effective leaders, which does not tie in with the follower-ratings in this study. However, according to the EIQ model, individuals with low EI are uncomfortable in interpersonal interactions (Higgs & Dulewicz, 2002). Their communication style tends to be formal and devoid of the emotional or personal touch. Similarly the SUEIT element of 'emotions cognition or decision making' will be low showing discomfort in drawing upon emotional information and cues to make workplace decisions (Palmer et al., 2001). According to both the SUEIT and EIQ, low EI entails a struggle to recognise, acknowledge and manage their emotions in relation to decision-making and the process of achieving organisational targets. These individuals generally draw upon objective, concrete and complete information to make decisions rather than engage in intuitive decision-making (Palmer et al, 2001; Higgs & Dulewicz, 2002). They may display a preference for formalised structures and procedures. This propensity could in turn generate a high degree of personal stress for both the leader and the followers.

Listening to, paying attention to and comprehending the needs and emotions of other people is not their forte (Higgs & Dulewicz, 2002). Thereby their negotiation, conflict-avoidance, communication and decision-making techniques will harness facts and figures which have a higher chance of being effective with superiors in enhancing career progression; but will not be an effective tactic while addressing followers grappling with change, uncertainty, insecurity and anxiety. Here, a genuine welfare-concern will be able to generate follower loyalty, belief and trust and thereby leading to effective change leadership.

Moreover, overestimators can come across as more concerned with how to present themselves to their superiors (Sosik & Jung, 2003). Based on the results obtained here, it appears that overestimating leaders are keen to project themselves in a positive light and this probably manifests in the favourable self-image they harbour thereby awarding themselves higher scores, compared to their followers. Sosik and Godshalk (2004) endorse the view that overestimators are prone to making rather positive self-evaluations. Some corroboration for this propensity can also be gleaned from the ANOVA test conducted on the MCSDS self-ratings of focal leaders compared across the TL-SOA categories; in additional findings section of this thesis. This shows that overestimators had the highest social desirability score and this score

significantly differed from in-agreement/poor focal leader self-ratings. Thus overestimators are keen to project themselves in a highly favourable light.

Overestimators appear to be oblivious to the emotional, practical and welfare needs of their followers and consider themselves rather effective. Controversially such leaders may be effective at portraying a positive image to their superiors (Sosik & Jung, 2003) but fail to win the admiration and loyalty of their followers as found in this study. It is possible that overestimators genuinely consider themselves rather extraordinary and may even display narcissistic traits, like inflated self-perceptions and reinforcing these inflated views of themselves (Campbell et al., 2004; Chatterjee & Hambrick, 2007). Individuals with low EI also demonstrate some narcissistic traits identified by researchers like susceptible to mood swings (Emmons, 1987). Narcissistic individuals tend to react with anger and aggression to negative feedback (e.g., Kernis and Sun, 1994; Rhodewalt and Morf, 1998) and they do not see any need to improve themselves (Chatterjee & Hambrick, 2007). These are also characteristics emulated by individuals who are low on EI through ineptness on the EI dimensions of managing emotions, controlling emotions and conscientiousness. Arguably, followers will co-operate with these leaders mainly due to the leaders' positional power and authority rather than out of personal loyalty, commitment or any emotional affinity. These leaders may also come across as overconfident and even intimidating to followers (Moshavi et al., 2003; Sosik & Jung, 2003) as argued earlier.

Thereby overestimators may not be inclined to engage in organisational citizenship behaviour and hence may fall short of integrating their own aspirations with those of the organisation. Such leaders are unlikely to commit to the organisational changes in their institutions. Hence overestimators do not necessarily engage in the EI skills required to enhance TL behaviour conducive to effective change implementation and change management. Based on the follower perspectives it is being conjectured that overestimating focal leaders are less adept at addressing the anxiety, insecurity, uncertainty that followers experience when faced with transformations within the organisation (Austin & Currie, 2003).

This study shows that overestimating leaders are not rated so favourably by their subordinates on OL either while Sosik and Jung (2003) found higher OL scores by their superiors. Therefore, it is possible that overestimators are skilled at impression management; particularly with a view to fulfilling their own career agendas. It is arguable that if overestimators are consciously or unconsciously focussing more on impression management; then they may occasionally emulate some of the typical emotionally intelligent traits. However, this is not genuine EI and is tied in to a personal agenda which will not necessarily cater to organisational and employee welfare. This type of EI expression may be better termed as pseudo-EI. Therefore, arguably overestimating focal leaders with pseudo-EI are not necessarily as focussed on the well-being of their followers and the organisation compared to other focal leaders.

Therefore, it may be reasoned that the leader-follower relationship fostered in the overestimators' category will be more susceptible to lower productivity, lower outcomes and less workplace satisfaction and can lead to greater anxiety and a volatile mind-set in the face of organisational change. Based on the above, it is concluded that overestimators cannot be seen as beneficial to the leader-follower dyad and thereby organisational welfare.

13.2.2 UNDERESTIMATORS, THEIR EMOTIONAL INTELLIGENCE AND ITS IMPLICATIONS

Hypothesis 2.2 shows that underestimators' EI was not perceived as significantly different to in-agreement/high and in-agreement/low focal leaders. Underestimators had significantly higher EI scores than overestimators only (H2.1) and this difference was of a substantially high power/magnitude as per effect size calculations ('large' for SUEIT and 'huge' for EIQ). The above section has explained the potential reasons and implications of the significantly low EI score for overestimators. The following discusses the reasons and implications of the significantly high EI score awarded to underestimating focal leaders by their followers.

Phase 1 in this study showed a significant and high correlation between EI and TL as per self-ratings (H1.1). Furthermore, phase 1 data analysis has shown that both the SUEIT and EIQ models can predict TL significantly (H1.4). Therefore, phase 2 findings, where followers rated both the EI and TL of underestimators as higher than a number of the SOA categories (ANOVA table 10.9); further endorses the above correlation.

The literature review of this study has already established the consensus in the literature regarding the TL as an effective and important change leadership style (Bennis & Nanus, 1997; Bass, 1998; Tucker & Russell, 2004). Simultaneously, both leaders and followers participating in this study unanimously indicated being involved in and being influenced by major changes (Tables 2.1 & 2.2; Figures 2.1 & 2.2) in their workplace at a micro and macro level within the department and the NHS organisation at large.

The significantly higher EI ratings awarded to underestimators (compared to overestimators) by followers on both the SUEIT and EIQ indicate that these leaders are highly in tune with their emotional experiences in the workplace and are more likely to actively channel their own and others emotions so that they can help followers feel safe in transformational environments, reduce their anxiety levels and facilitate a motivated, productive and committed workforce. Thereby these leaders will be better disposed to act as champions of change within organisations like the NHS.

An individual with high SUEIT and EIQ is expected to be self-aware with a clear comprehension of their own emotions. Through awareness of their own emotions, these individuals maintain a strong focus on the necessary results and outcomes. They are able to concentrate on reaching targets irrespective of their emotions and moods (Higgs & Dulewicz, 2002). This would therefore apply to overestimators.

High EI ratings also indicate being adept in recognising and comprehending other people's emotional experiences and how these are discernible externally in the workplace. Therefore it is fair to deduce that underestimators are able to decipher the emotions of their followers, and glean the emotional nuances at work. In addition,

the high ratings on the EIQ model insinuates good listening skills, an invaluable communication style and an awareness of how their followers and colleagues can be successfully motivated (Higgs & Dulewicz, 2002) thereby attributing proficiency in these traits to overestimators.

Furthermore, individuals with high EI and thereby underestimators will be able to express their thoughts in a direct yet collegiate manner. Therefore, it is justifiable to say that underestimators have suitable skills to negotiate amicable compromises with followers with a view to furthering the change vision and mission within an organisation, like the NHS. Thus underestimators are likely to be more successful in ensuring favourable change leadership outcomes through their high EI particularly in garnering follower support towards institutional change initiatives; unlike overestimators.

Some authors (Fulmer & Barry, 2004; Ogilvie & Carsky, 2002; Mueller & Carhan, 2006) have started to capture the theoretical potential of EI to inform negotiation techniques. They particularly suggest that EI can influence the attributes of other negotiators through ‘information acquisition’, ‘decision making soundness’, ‘attempting emotional tactics’ and ‘inducing others emotions’ to veer the negotiation outcomes (Fulmer & Barry, 2004). However, this theoretical proposition is yet to be empirically tested. While the above dimensions identified by Fulmer and Barry (2004) are predominantly based on Mayer et al’s (2000) EI model, these dimensions are also core components of both the SUEIT and EIQ models of EI investigated in this thesis. Therefore, based on the high EI levels of underestimators found in this study, it is argued that the above proposition would apply to underestimating focal leaders who can help steer the negotiation process towards desirable and satisfactory outcomes particularly where change is endemic in the organisation and the co-operation and investment of followers are being sought by the leader.

Through effective negotiation with followers, overestimators should be able to add momentum to organisational change initiatives. Underestimators’ high level of individualised consideration (TL) will tie in with emotional perception of others including senior management as well as their followers. This probably helps them identify the ‘pressure points’ of their followers. Underestimators can be argued to be

sufficiently intuitive to recognise what appeals to their followers. Their effective emotional expressions and genuine welfare-orientation may also make followers more receptive to these leaders and possibly even induce followers to confide in and share their personal and career aspirations with them. With this sort of information combined with their ability to arrive at decisions based on emotional information and incomplete tangible data, underestimators will be well disposed to mediate with followers and garner their support for the necessary change initiatives.

Individuals with high EI (particularly on the EIQ model) tend to function with a focus on the long-run. They are extremely self-motivated. Such individuals are able to exploit personal stress to achieve targets. Being long-term oriented enables them to overcome failures and problems in the short-term while focussing on the long-term goals. They are adept at addressing underlying conflict and resolving any conflict (Higgs & Dulewicz, 2002).

Change propositions can lead to conflicts – this can be quite strong and of high impact in the NHS – like the one that has arisen as a result of the very recent proposals and endeavours to abolish PCTs in the NHS. “Conflict cannot be free of emotion or anxiety” (Ogilvie & Carsky, 2002: 382). EI may be argued to enhance conflict resolution through negotiation techniques. TL may be linked to conflict resolution through individualised attention and idealised influence. Therefore the high relation between EI and TL can help conflict resolution. Individuals with high EI can make the negotiating process a positive experience (Foo et al., 2004); therefore, underestimators with their high EI will be well disposed to dissipate change related anxiety and conflict and reinstate sufficient trust and faith to market the change initiatives of an organisation and effectively lead these changes.

Negotiation can also manifest itself as a key component of the decision-making process particularly with reference to scant resources (Thompson, 2001). Decision-making is an essential dimension of the SUEIT and EIQ model. This maybe linked back to Damasio’s (1995) research which demonstrated that patients who suffered from damage to the prefrontal amygdala circuits associated with the neural and limbic systems of emotions led to a deterioration in their decision-making capabilities while their cognitive intelligence levels remained unchanged. Thereby

reiterating the potential intertwine between EI, negotiation and decision-making. Furthermore, effectual reasoning and decision-making is also a key driver of successful change. So, overall the high EI of underestimators could be conjectured to make them effective decision-makers, negotiators and change champions.

It's already been established that underestimators were adjudged as having higher EI, in this study. Individuals with high EI are generally associated with high levels of confidence (Higgs & Dulewicz, 2002), therefore it is interesting to note that they underestimated their TL capacities in comparison to their followers' judgment. So, underestimators can justifiably be portrayed as lacking confidence as they undervalued their TL compared to their followers. A contradiction is visible here.

It is possible that individuals with high EI appear more confident to others as they are more aware of their own emotions and are therefore better able to conceal unproductive emotions. Their ability to focus on organisational targets irrespective of their personal emotions can make them appear more confident and conscientious.

However, underestimators must be rather self-critical, thereby undervaluing their own skills and competences despite being very conscientious and good at their work [as shown by their high OL ratings (H2.5)]. Hence underestimators can be reasoned to have an inherently self-deprecating attitude. By virtue of their self-deprecating evaluation on TL, underestimators are arguably striving to improve themselves. They are possibly rather keen to yield a favourable impression in the minds of others – both their superiors and their followers. This, coupled with a genuine desire to ensure the welfare of their followers and the organisation; possibly make them extra conscientious and attentive towards their staff. However unlike overestimators, their need to create a positive opinion is probably driven more by their need for self-validation rather than any ulterior career/pay related personal agenda.

People with high EI are capable of engaging in interpersonal exchanges, clearly expressing their emotions and sentiments in a manner which is conflict-free and productive (Higgs & Dulewicz, 2002). This capability must help mask any lack of confidence and therefore while they may consider themselves less effective, their followers find them confident, focussed and welfare-oriented. Therefore

underestimating focal leaders are rated as having higher EI than the other SOA categories. Such a skill can be arguably beneficial in negotiation, and thereby the process of change implementation.

It has already been established that underestimators are extremely hard-working and conscientious. It is possible that through their perseverance, hard-work and thoughtfulness they have become very effective in leading change. As a result, their followers see them as confident, trustworthy and subscribe to their change campaigns. This is of particular importance and benefit in the NHS context which is perpetually dealing with getting their staff to subscribe to their change missions. Hence, underestimating leaders can prove to be very effective change agents in the NHS.

Furthermore, unlike overestimators, underestimators are debatably devoid of narcissistic traits. Rather, their self-perception may benefit from a certain level of validation and much deserved positive feedback. So, underestimators may substantially benefit from appraisals and continued professional development as they are more likely to focus on collective efforts towards achieving the organisational mission and vision while working to ensure employee welfare and productivity.

Therefore, results from this study, show that underestimators are considered more effective with respect to their leadership performance by their staff and followers (H2.5). By virtue of their modesty and possible lack of self-belief – they may fall short of selling themselves and thereby well deserved promotions and career advancement opportunities may elude them; if they do not consciously project their impact on the organisation. This also supports Sosik and Megerian's (1999) finding that underestimators display less 'public self-confidence' which essentially pertains to making particular impressions on people. Moshavi et al. (2003) also reckoned that being less interested in fashioning favourable impressions on their superiors, underestimators would invest more in their followers' welfare which in turn would enhance their effectiveness with followers as change leaders.

13.2.3 IN-AGREEMENT/GOOD/POOR LEADERS, THEIR EI AND ITS IMPLICATIONS

Results of Hypothesis 2.2 revealed that contrary to expectations, followers perceived underestimators and in-agreement/good/poor leaders to have similar levels of EI for both the SUEIT and EIQ models. Additionally H2.3 indicated that followers viewed agreement/good and in-agreement/poor focal leaders as having similar EI levels contrary to the hypothesis that in-agreement/good leaders would be seen to have higher EI than in-agreement/poor focal leaders, by the followers.

This implies that the EI manifestations of in-agreement/good and in-agreement/poor do not have a differential impact on their followers. Therefore, it appears that the most visible and significant difference in EI manifestations is perceived only when in-agreement/good and in-agreement/poor leaders are compared to underestimators. Based on these findings, it may be argued that underestimators and in-agreement leaders are similar in their emotional expressions – however underestimators being self deprecating, rate their TL a lot lower than its actual impact on their followers. Hence, essentially both underestimators and in-agreement leaders may actually be really effective in using their EI appropriately.

As the postulation that underestimators will have significantly lower EI than in-agreement focal leaders as per followers perspectives, did not hold true for the NHS leaders (H2.2); it is possible that the NHS culture has had an impact on the nature of results. The NHS is an institution perpetually embroiled in transformations. Therefore, the general leaders or in other words, focal leaders whose self-other perception of TL was closer to the general average (in-agreement), would have a propensity to display a similar level of EI. This research was conducted within the environment of ‘monumental’ change as described by one of the participants (chapter 2). During this time, the NHS was undergoing major structural reforms with a number of PCTs being merged. In addition all trusts were in the process of implementing the New Agenda for Change and encouraging reviews under the new Knowledge and Skills Framework. Face to face interviews revealed a high level of jobs ‘at risk’. It is therefore, possible that the unavoidable and extant nature of the

prevailing change environment necessitated the display and use of a certain 'type' of leadership which would be closely informed by the average level of EI displayed as a collection of people. Furthermore, people in management positions in the NHS received some advice and support from the trusts and PCTs on furthering these changes which may have led to the manifestation and perception of similar emotional behaviours for in-agreement/good and in-agreement/poor leaders which was closer to the mean (H2.3). It is possible that the standard deviation was not large enough to create a marked difference between the EI manifestations of in-agreement/good and in-agreement/poor leaders.

These results suggest the lack of a need to differentiate between in-agreement/good and in-agreement/poor leaders which is contrary to Sosik and Godshalk's (2004) deductions where they found similar results between underestimators and in-agreement/good mentors on one hand and overestimators and in-agreement/poor mentors on the other hand in terms of providing social-support to mentees. However Sosik and Godshalk (2004) also found no significant differences between in-agreement/good and in-agreement/poor leaders in terms of mentee perceptions of the mentors career development, career satisfaction, job satisfaction and desired aspiration levels.

There is a possibility that this study faced some limitations in sensing the statistical differences in-agreement/good and in-agreement/poor leaders as although a very large sample of dyads was used (over 200 dyads), after aggregation of follower ratings and categorisation, each sub sample of in-agreement/good and in-agreement/poor aggregated dyads became relatively small. This shrinking of the sample into smaller sub samples may have limited the detection of any statistically significant difference between these two categories. However, the overall sample size is still extremely robust and generally considered reliable.

In-agreement/good may encompass a group of focal-leaders who are accurate in their awareness of TL but may not necessarily be motivated to enhance their EI skills and leadership outcomes. They may represent a category of leaders who are consistent in their performance, generally effective and may not feel the need to raise the bar. There may even be a hint of complacency due to the generally adequate level of their

outputs. In-agreement/good leaders may be more inward focussed than focussed on their emotional interactions with followers and ensuring their actions make their followers satisfied. It is possible that in comparison overestimators and significantly lower but the remaining three categories manifest only subtle differences.

These results do not provide support for the theorisations by Yammarino and Atwater (1997) suggesting that they would be the ideal performers. Both the EI and OL planned comparison results in this study refute this theory. This study did not find in-agreement/good leaders to have the highest EI and OL ratings by their followers as this would have been considered 'ideal'. Interestingly Berson and Sosik (2007) had also reported that in-agreement/good leaders were found to engage in exchange-oriented behaviours or hard-tactics contrary to expectations. This supports the findings where in-agreement/good leaders didn't have the highest EI ratings. It is possible that in-agreement/good leaders are more objective and transactional in their dealings while bearing in mind the individual needs of their followers thereby indicating a good level of TL. Berson and Sosik (2007) refer to the augmentation effect of EI (Bass & Avolio, 1994) indicating that high TL also enhances TrL particularly contingent reward. This can then impede the effect of high EI expressions and interactions with followers which is essentially perceived as non-transactional and non-exchange oriented with soft rather than hard tactics. While underestimators might also use exchange-oriented techniques these may not be perceived as hard (Falbe & Yukl, 1992); as their high level of EI will inform the effective use of soft tactics to extrapolate high performance and alignment with organisational goals; in comparison to in-agreement leaders. This can be particularly helpful in incorporating and facilitating radical change.

Overall this study shows that the SOA category warranting key consideration is that of overestimating focal leaders whose followers perceive them to have significantly lower EI compared to the in-agreement/good/poor leaders and underestimators. Simultaneously being in the overestimators' category shows that their leadership behaviour is not being considered very transformational by their followers. The effect size or magnitude by which overestimators' EI was found to be lower than the other focal leader categories range from 'huge' to 'large' (as shown in table 11.2). This compounds the unfavourable perception of overestimators in the eyes of their

followers in comparison to underestimators, in-agreement/good/poor with extremely low EI leading to low manifestation of TL behaviours and thereby an inadequacy to lead major change.

13.3 LEADER OUTCOMES OF LEADERSHIP: COMPARISON OF FOLLOWER PERCEPTION ACROSS SOA CATEGORIES

13.3.1 OVERESTIMATORS, THEIR OL AND ITS IMPLICATIONS

In this study followers considered the overestimators to be the least capable leaders; and appeared dissatisfied by their leadership outcomes. The pattern of results yielded by follower ratings of OL is similar to the planned comparison results for follower ratings of EI. Effect size calculations showed that the magnitude of this difference was 'huge' ($O < U$), 'large' ($O < IAG$) and 'very large' ($O < IAP$). This shows a significantly and substantially lower OL score for overestimators which should not be put down to chance.

Interestingly, supplementary findings in phase I also revealed a strong association between self-rated EI and OL on both EI models. The phase II planned comparisons revealed that overestimators were adjudged as being significantly lower on EI and OL by their followers reinforcing the linkage found between EI and OL in the phase 1 supplementary analysis.

The lowest OL results for overestimators extend and support Yammarino and Atwater's (1997) argument associating overestimators to negative individual and organisational performance. They have been found to misinterpret both their positive and negative qualities (Bass & Yammarino, 1991) which is linkable to their low EI found in this study. They have also been seen as arrogant and egocentric (Moshavi et al., 2003); attributes that could lead them to over-valuing their own TL while the outcome of their TL as measured by follower-ratings of the overestimators OL left more to be desired. Moshavi et al. (2003) cite research which contends that leaders

tend to overestimate their leadership capabilities possibly due to “systematic defensiveness on the part of the managers, egocentrism, and the ambiguous nature of managerial work (Harris & Schaubroeck, 1998)” (Moshavi et al., 2003: 415). Sosik and Megerian (1999) suggest that a positive correlation between follower-ratings of TL and follower-ratings of OL for overestimators is due to common method variance, however the planned comparison in this study demonstrating the lowest EI and lowest OL for overestimators indicate that overestimating leaders are indeed perceived as the least competent in EI and OL by their followers.

The lowest OL scores awarded to overestimators in this study endorses a similar discovery by Sosik (2001). Overestimators displayed higher levels of public self-consciousness (Sosik & Megerian, 1999) which maybe interpreted as being highly concerned about the impression one is creating on others and the opinion other people have of them. Sosik and Megerian (1999) suggested that these individuals will be more interested in impressing their superiors and key players in the organisation, thereby having little time to impress followers. Thereby followers would tend to see them as non-transformational leaders and not necessarily very effective or high performing (Sosik & Megerian, 1999). The lowest follower ratings for overestimators OL in this study, supports the above conjecture.

The lowest OL scores and EI scores in this study suggest that overestimators may be seen as being individualistic rather than focussed on collective organisational goals. Although, Sosik (2001) did not find a significant association between follower-ratings of charismatic leadership and managerial performance for overestimators/underestimators; overestimators have been associated with low organisational commitment levels and emulating a high focus on themselves (Sosik, 2001). They are expected to be inclined to discount negative criticisms thereby failing to exploit opportunities of self-development and alter their behaviour (Atwater & Yammarino, 1997). This, in turn may be linked to their high level of social desirability bias and self-deception. Sosik (2001) found a positive connection between follower scores on charismatic leadership / TL and socially desirable responding.

Therefore, overestimators may be responding to surveys in a socially desirable manner, however in comparison, the accuracy of results for IAG leaders shows that

IAG focal leaders are not greatly influenced by social desirability bias. It may be said that IAG leaders are significantly more effective as transformational leaders than overestimators and are therefore preferable to overestimators in during change. This might explain the significantly lower OL ratings awarded to overestimators, compared to IAG leaders.

Interestingly Brett and Atwater (2001) highlighted that overestimators adjudge feedback from their superiors or subordinates as inaccurate when it does not match their self-reports. This made them “angry and discouraged” (Moshavi et al., 2003). This shows that the chances of them acting upon the feedback received is minimal. Complacency (Krishnan, 2003) might also be a feature of overestimators, leading to a misdiagnosis of their strengths. Their over-confidence and proclivity to be arrogant will particularly ‘dis’ endear overestimating focal leaders to their followers in a climate of change where organisation members are undergoing enhanced levels of stress, anxiety and uncertainty. They are in need of significant moral support and compassion from their leaders which the overestimators will fail to provide; however in-agreement/good leaders will be significantly better disposed provide this type support to their followers. Therefore, it is argued that due to this nature, overestimators’ focus more on the self, leading to their inflated self-perceptions. This potentially restricts their capacity to take into account their followers’ welfare needs and align themselves with organisational requisites. This in turn is reflected in their lowered levels of leadership success, as found in this study.

IAP focal leaders were perceived by followers as displaying significantly higher OL than overestimators. It has been established earlier that IAP leaders are probably not ideal for change implementation and change management as their accurate or self-aware but lower levels of TL show that they are not ideal to motivate and drive initiatives among their followers. However, when compared with overestimators, it may be argued that IAP leaders will be more successful as followers will probably have more respect for their “call a spade, a spade” attitude compared to overestimators who are inclined to behave in a deceptive, narcissistic and even arrogant manner (Sosik, 2001). Overestimators may be seen as extremely self-focused to the extent that they do not consider their followers welfare. This is the anti-thesis of TL and is not emotionally intelligent, both of which have been argued

in this study, as key constructs which can drive effective and successful change. Therefore, this study found significantly higher OL ratings for in-agreement/poor focal leaders compared to overestimators in the NHS at a time when the leaders and followers were embroiled in monumental changes in their NHS trusts.

The above deductions coupled with the significantly low ratings followers gave overestimators on EI (discussed in section 13.2) indicates that overestimating leaders are not the desirable type of leaders to manage and incorporate the massive magnitude of dynamic change and transformation which the NHS is faced with.

13.3.2 UNDERESTIMATORS, THEIR OL AND ITS IMPLICATIONS

Underestimators received significantly higher OL ratings than overestimators (H2.4) and in-agreement/good leaders (H2.5). The magnitude of the difference was substantial with the power of the effect revealed to be ‘huge’ and ‘large’ respectively, thereby indicating that these differences were not due to chance. Underestimators were rated as displaying better OL levels than in-agreement/poor focal leaders, this difference was non-significant.

The existing literature has treated OL as a proxy measure of performance (Sosik & Megerian, 1999); as the OL factors comprise effectiveness, extra effort and satisfaction. Therefore, underestimators are arguably the most effective leaders, with significantly higher OL than overestimators and in-agreement/good focal leaders yielding higher levels of performance. While underestimators have been described by Yammarino and Atwater (1997) as producing inconsistent performance outcomes, some other studies using a variety of measures of focal leader performance also found that followers rated underestimators as the best performers (Sosik & Megerian, 1999; Atwater et al., 1995) especially in comparison to overestimators. The results of this study endorse the findings of the latter studies cited above.

Underestimators were adjudged as significantly more competent in OL, than in-agreement leaders. By virtue of being in the in-agreement/good category, these focal

leaders are deemed to be extremely self-aware and are considered to perform excellently in their endeavours and leadership activities. While followers would hold them in high regard, find their leadership outcomes effective, satisfying and recognise the extra efforts they make; yet followers have awarded more credit to underestimators in this study. The potential reasons for this are discussed below.

The higher OL ratings for underestimators may also be explained by Atwater and Yammarino's (1997) observation that underestimators are modest but not underperformers. Modesty leads to amicable behaviour which in turn can lead to high rapport with followers and thereby high follower satisfaction. The high OL results for underestimators can be used to suggest that they may engage a lot in ingratiation and exemplification techniques. This conjecture is supported by Sosik and Jung's (2003) discovery that underestimators indulged in more ingratiation techniques than overestimators and in-agreement supervisors. Due to their tendency to underestimate their TL skills, underestimators might try and overcompensate for it with their followers. Underestimators might be overly critical in evaluating themselves (Sosik & Megerian, 2001) and set the benchmark rather high for themselves. Hence, they might be very keen to act upon follower feedback and invest in extra-effort to make up for their sense of self-inadequacy. These leaders might be argued as being rather humble, altruistic and may prioritise the interest of others over their own (Krishnan, 2003). Underestimators' were found to be high on moral leadership and effectiveness (Krishnan, 2003), thereby enhancing their TL which in turn augments their OL according to follower perceptions.

Furthermore, underestimators may suffer from lower levels of confidence which make them uncomfortable in interacting with their superiors and highlighting their achievements to their superiors. However, by virtue of their position power, underestimators will be comfortable in dealing with their followers, motivating them and achieving higher outcomes in the eyes of their followers. Hence, these leaders possibly succeed at establishing better communication with their followers and can use their interpersonal, amicable skills to effectively collaborate with their followers in achieving the collective organisational goals. Therefore, followers see these focal leaders as being effective, as investing extra effort and are satisfied with the underestimators' leadership.

Based on the high EI and OL ratings for underestimators, it is being contended that underestimators' high level of EI help them capture and address the expressions of their followers and their well-being which can positively influence the workplace environment, level of motivation, productivity and OL. In addition, subordinates of underestimators and in-agreement leaders displayed higher productivity levels than the followers of overestimators in the manufacturing sector (Moshavi et al., 2003). This has been replicated by the results in this study in the NHS with higher follower-ratings of underestimators' OL. This demonstration of higher OL for underestimators is arguably very pertinent and effective in the change context and in mobilising the loyalty and efforts of followers towards organisational change objectives.

13.3.3 IN-AGREEMENT/GOOD/POOR LEADERS, THEIR EI AND ITS IMPLICATIONS

No significant difference was found between the OL scores of IAG and IAP focal leaders (H2.6). Moreover, in this study, in-agreement/good and poor categories did not receive the highest scores on EI or OL. This is in contradiction to Atwater and Yammarino's (1992) assertion and Atwater et al. (1998) and Atwater et al.'s (1995) discovery of higher OL scores for in-agreement leaders compared to the other SOA categories. Berson and Sosik (2007) discovered that in-agreement/good managers (in terms of charismatic leadership) had higher levels of effective outcomes (organisational quality and innovation processes) than overestimators and in-agreement/poor managers. Once again, the higher OL ratings for underestimators here, refute Berson and Sosik's (2007) findings. The current study where in-agreement/good/poor categories did not receive the highest OL ratings can be linked to Godshalk and Sosik's (2000) and Sosik and Godshalk's (2004) results which did not support Yammarino's (1992) and Atwater et al.'s (1998, 1995) above conjecture either. The military environment in which Atwater and Yammarino (1992) conducted their study was possibly more rigid, structured and controlled where leaders are expected to maintain a proper image which does not encourage modesty or humility (Godshalk & Sosik, 2000). This would be in stark contrast to the NHS context of the current study, which is essentially a 'care-services' industry. While the hierarchical structure in the NHS is very strong – the nature of its service can be argued to foster

a more flexible and humane culture and is more receptive to leaders revealing their modest and humble qualities to a greater degree.

Interestingly this study found a lack of any significant difference between the OL ratings awarded to underestimators and in-agreement/poor focal leaders while underestimators were awarded significantly higher OL scores than in-agreement/good leaders. These results suggest there may be some similarities between how underestimators and in-agreement/poor leaders are perceived. While in-agreement/poor focal leaders maybe 'accurate' in judging their TL skills; these type of leaders would be less preferable to underestimators as their TL skills are perceived to be low by followers and their OL ratings are not considered outstanding either. It might be argued that while these leaders may be accurate and self-aware in judging the level of their TL; they are perhaps content with the status quo but possibly not significantly driven or committed to the organisational goals and do not feel inclined to invest in their followers welfare to align them with the organisations' targets. Therefore, based on these results, it is argued here that in-agreement/poor leaders would not be ideal as change agents and in galvanising follower support for the organisations' transformational initiatives. However, in contrast; underestimators have been rated as significantly higher than in-agreement/good and overestimating focal leaders placing them in the most effective category of transformational leaders and making them the most preferred leader in the change context.

Moreover, this study did not find a significant difference between in-agreement/good and in-agreement/poor leaders for EI or OL. Furthermore, the lack of any significant difference in EI and OL scores between IAG and IAP leaders provides some support to the argument that more empirical evidence is needed to support additional categories of in-agreement/good/poor and overestimator/good and understimator/poor (Fleenor et al., 1996).

Overall, based on the follower perceptions of leaders' OL, underestimators may be adjudged as the most successful leaders in the change context with overestimators demonstrating the least conducive behaviours to successfully leading within a change environment like the NHS. In-agreement/good leaders may also be able to aid the

change process and yield favourable outcomes, though not as effectively as underestimators.

13.4 CORRELATIONS BETWEEN EI AND TL ACROSS SOA CATEGORIES

13.4.1 EI AND TL LINKAGE FOR IN-AGREEMENT FOCAL LEADERS

Contradictory findings were revealed by the two EI models while ascertaining the association between self-rated EI and follower-rated TL of in-agreement/good focal leaders (H2.7). The postulated outcome was a significant positive association. This prediction was refuted by the SUEIT and supported by the EIQ. Interestingly, in-agreement/poor focal leaders' SUEIT self-ratings showed a significantly positive correlation with follower-ratings of TL and the EIQ model showed no significant association between the same (Q.2.9). This is in direct contrast to the results found for H.2.8.

These contrasting results prompted a detailed analysis of the factor-wise correlations between EI dimensions and TL dimensions for in-agreement/good (table 11.8) and in-agreement/poor leaders (table 11.8). The most relevant findings have been captured in the tables below (table 13.1 and 13.2) followed by a discussion of these findings.

[Please Turn Over]

Table 13.1: In-Agreement/Good Focal Leaders Significant Correlations

In-Agreement/Good Focal Leaders Significant Correlations		
Leader Self-Rated EI Factors	Follower-Rated TL Factors	Type of Correlation
<i>Overall SUEIT</i>	<i>Overall TL</i>	<i>No Correlation</i>
Understanding Emotions/External	Overall TL	Positive
Emotional Management	Idealised Influence – Behaviours	Positive
Emotional Management	Inspirational Motivation	Positive
Overall SUEIT	Idealised Influence – Behaviours	Positive
<i>Overall EIQ</i>	<i>Overall TL</i>	<i>Positive Correlation</i>
Emotional Resilience	Idealised Influence – Behaviours	Positive
Emotional Resilience	Inspirational Motivation	Positive
Motivation	Idealised Influence – Behaviours	Positive
Motivation	Inspirational Motivation	Positive
Overall EIQ	Idealised Influence – Behaviours	Positive
Overall EIQ	Inspirational Motivation	Positive

The above variation in results may be explained by focussing on the factorial differences between the two EI models where SUEIT may be aligned more strongly with the ability stream of EI compared to the EIQ model which clearly sits within the mixed-model EI stream. Regression analysis in phase 1 also shows that the EIQ model has 9% incremental predictive power of TL (table 9.17), beyond the SUEIT. Hence, the additional personality factors embedded in the EIQ model probably helped generate a significant positive association between self-rated EI and follower-rated TL of in-agreement/good leaders. The narrower and more focussed scope of the SUEIT might prevent generating a ‘significant’ positive correlation for in-agreement/good focal leaders.

Nonetheless, the self-ratings of SUEIT formed a significant and positive correlation with TL for in-agreement/poor leaders. This was not the case with the EIQ model. These results further strengthen the contention that different models of EI are beneficial or effective in predicting different leadership aspects.

This is the first study where self-ratings of EI and follower-ratings of TL have been correlated for two in-agreement categories: 'good' and 'poor'. The only other study (Sosik & Megerian, 1999) where this type of association was tested, was for in-agreement focal leaders as a whole. However, Sosik and Megerian's (1999) study used proxy measures of EI and not established EI models and only sought to study the self-awareness component of EI as opposed to the full EI profile being examined in this thesis. They found significant positive associations between follower-rated TL and self-rated proxy measures of EI like interpersonal control and social self-confidence. However, no relationship was found between TL and EI elements like even-temperedness and sensitivity, which can be related to key EI components of emotional management/control and emotional recognition/expression. To some extent, the results in this study support Sosik and Megerian's (1999) findings, in that, different correlation results were yielded for the different EI dimensions. Therefore, as indicated in the discussion in section 13.3.3 more research into the sub-categorisation of in-agreement leaders into 'good' and 'poor' might be beneficial (Fleenor et al., 1996) to help explain the discrepancies in results.

Closer inspection of the factor-wise correlation between EI factors on both the SUEIT and EIQ models and follower-rated TL highlighted a number of significant correlations for SUEIT and TL despite a non-significant correlation result for their overall scores. This has been compared and evaluated below.

For in-agreement/good leaders, parallels can be drawn between the key EI factors (on the two models) which revealed significant correlations with TL elements. The SUEIT component of emotional management and the EIQ component of emotional resilience, both displayed significant positive correlations with the TL elements of idealised influence –behaviours and inspirational motivation. It is arguable that a conceptual overlap exists between emotional management (SUEIT) and emotional resilience (EIQ). Emotional management pertains to handling and regulating positive and negative emotions in oneself as well as other people (Palmer et al., 2003). Parts of emotional resilience also harness balancing work pressures with needs of individuals. This further entails overcoming criticisms and challenges to maintain effective performance (Higgs & Dulewicz, 2002). This act would encompass addressing and managing challenging emotions instigated through criticisms; which

can be related to emotional management (SUEIT). Furthermore, phase 1 discovered a significant and strong positive correlation between emotional management and emotional resilience ($r = 0.57, p < 0.001$) (table 9.16); thereby statistically confirming that there is a significant similarity between these two dimensions. This strong similarity can account for them displaying positive correlations with the same TL factors (idealised influence – behaviours and inspirational motivation).

Furthermore, the EIQ component of ‘motivation’ displayed significant positive correlations with TL factors of idealised influence – behaviours and inspirational motivation. Arguably motivation is essentially a personality factor rather than a core ability EI component. The SUEIT does not encompass the personality element of motivation; however motivation is a component of the EIQ model. Motivation (EIQ) refers to the enthusiasm to accomplish targets, influence others to achieve tasks, remain focussed on long and short term targets even in high pressure circumstances which may involve doubt or negative responses (Higgs & Dulewicz, 2002). Similarly inspirational motivation (TL) is concerned with communicating the common goals and the vision of how to accomplish them. Here, leaders try to provide meaning to endeavours and nurture a positive and inspirational working environment. Therefore, the positive correlation between motivation (EIQ) and inspirational motivation (TL) may be perceived as obvious, through the focus on creating an impact and galvanising attainment of organisational goals. The propensity to nurture a positive and uplifted working environment can be informed by emotional resilience (EIQ) which aims to harness unswerving performance in demanding situations including striking an equilibrium between situational needs and the necessities of the people involved (Higgs & Dulewicz, 2002). This explains the significant association of emotional resilience with motivation (TL). Hence, arguably in-agreement/good leaders are substantially motivated and succeed in encouraging and motivating their followers. Furthermore, it may be reasoned that the positive overall association between EIQ and TL for in-agreement/good leaders is substantially assignable to the correlation between motivation (EIQ) and inspirational motivation (TL) leading to a positive correlation between EIQ and TL unlike the SUEIT and TL.

The very fact that these results pertain to the in-agreement/good group of focal leaders shows that this is a fairly self-aware group and their TL scores are at the

higher end of the continuum. Hence, based on the above discussion, it may be contended that in-agreement/good leaders' emotional skills in terms of emotional management, emotional resilience and motivation are strongly manifested in TL behaviours conducive to change, especially in the form of idealised influence-behaviours and inspirational motivation. This means that in-agreement/good leaders emphasise acting as role models, being a driving force for followers and empowering their followers based on emotional information processing entailing channelising their own emotions and that of other people. Their propensity to be resilient and cope well with demanding circumstances probably also contributes to the enhancement of their TL behaviours. Additionally, their overall TL is possibly influenced by their proclivity to be self-aware and ability to decipher and understand others emotions as indicated by the significant positive association between understanding emotions/external (SUEIT) and overall TL. These results also support the earlier suggestion by Sosik and Megerian (1999) that the linkage between TL and elements of EI in leaders; to a great extent, relies upon leaders being realistic about how followers perceive them.

Table 13.2: In-Agreement/Poor Focal Leaders Significant Correlations

In-Agreement/Poor Focal Leaders Significant Correlations		
Leader Self-Rated EI Factors	Follower-Rated TL Factors	Type of Correlation
<i>Overall SUEIT</i>	<i>Overall TL</i>	<i>Positive Correlation</i>
Understanding Emotions/External	Idealised Influence – Attributes	Positive
Emotions Direct Cognition	Intellectual Stimulation	Positive
Emotions Direct Cognition	Overall TL	Positive
Emotional Management	Inspirational Motivation	Positive
Emotional Control	Idealised Influence – Total	Positive
Overall SUEIT	Idealised Influence – Attributes	Positive
Overall SUEIT	Idealised Influence – Behaviour	Positive
Overall SUEIT	Inspirational Motivation	Positive
<i>Overall EIQ</i>	<i>Overall TL</i>	<i>No Correlation</i>
Conscientiousness	Idealised Influence - Attributes	Positive

Now an in-depth discussion follows elucidating the factor-wise correlations between EI and TL for in-agreement/poor leaders. By virtue of being classifiable as in-agreement/poor leaders, these focal leaders may be portrayed as self-aware and accurate in adjudging their TL behaviour; however, simultaneously their TL scores are low and need improvement.

For in-agreement/poor leaders understanding emotions/external (SUEIT) demonstrates a significant linkage with idealised influence – attributes (TL). This shows that if the leaders' capability to recognise and comprehend follower's feelings and emotions is low, then these leaders are unlikely to display the attributes of idealised influence manifested through focussing on the group's well-being, acting as a role model and inspiring respect for the leader. Arguably, to be successful in demonstrating these traits, the leader needs to effectively decipher and understand their followers' feelings and emotions. Moreover, idealised influence attributes entail displaying confidence and power which is arguably lacking in in-agreement/poor individuals through their self-awareness yet need for more confidence. This helps to explain the significant correlation between leader self-ratings of emotions/external (SUEIT) and follower-ratings of idealised influence – attributes (TL) for in-agreement/poor leaders.

Leader self-ratings of emotions direct cognition (SUEIT) showed a strong positive association with follower perceptions of these leaders' intellectual stimulation (TL). Emotions direct cognition (SUEIT) focuses on incorporating emotional information in decision making (Palmer et al., 2003). Therefore based on the results here, if leaders consider themselves to be low in their dexterity to incorporate emotion-laden information in arriving at decisions; then followers do not feel intellectually stimulated by such leaders; which includes being innovative, creative, inquisitive or approaching issues by thinking outside the box. Therefore in-agreement/poor leaders are ineffective in helping their followers feel empowered through their inability to channelise emotional understanding while arriving at decisions.

In-agreement/poor leaders' self perception of their emotional management (SUEIT) and follower perception of the same leaders' inspirational motivation (TL) showed a significant positive association. This is similar to the findings for in-agreement/good

leaders; thereby corroborating the findings for H2.8 and reemphasising the impact of emotional management of the leader on the degree to which their followers feel inspirationally motivated by their leaders.

In-agreement/poor leaders' self perception of emotional control (SUEIT) and their followers' perceptions of these focal leaders' idealised influence (TL) are positively linked. Being in-agreement/poor leaders implies low idealised influence ratings according to both self and follower-ratings. This shows that if the leaders' strength of emotional control is low then the followers do not perceive these leaders to be effective in idealised influence. Not being effective at controlling strong and negative emotions like stress, anger, frustration (Palmer et al, 2003) hinders a person's ability to come across as a role-model and practice what they preach which are core to effectual idealised influence.

Self-rated leader conscientiousness (EIQ) revealed a strong positive linkage with follower perceptions of the same leaders' idealised influence-attributes (TL) for in-agreement/poor leaders. Conscientiousness is described as matching "words and deeds" (Higgs & Dulewicz, 2002: 31) and dedicatedly working on a course of action in the face of adversity and challenging emotions. This is strongly aligned to being a role model and a leader who is idealised by their followers. This explains the strong association between these two variables for in-agreement/poor leaders indicating low conscientiousness (EIQ) would lead to less success in displaying idealised influence attributes. Furthermore, it may be reasoned that understanding emotions/ external (SUEIT) are related through a person's ability to detect others emotions (understanding emotions/ external) being connected to the strength of their commitment to an action or venture by circumventing challenging emotions and criticisms (conscientiousness). Moreover, conscientiousness also entails encouraging and persuading others to be loyal to the chosen course of action. In order to effectively move followers in a particular direction, detecting and accurately comprehending their emotions may be considered crucial. This may arguably explain why both leader-self-rated conscientiousness (EIQ) and understanding emotions / external (SUEIT) revealed a strong and positive association with idealised influence / attributes (TL). This explanation is supported by the Phase 1 supplementary finding

of a strong positive correlation between conscientiousness (EIQ) and understanding emotions/external (SUEIT) ($r = 0.19, p < 0.01$).

Further research on this hypothesis in future will be beneficial. Additionally, the nature of classifying in-agreement leaders into good and poor may be worth studying in-depth; bearing in mind the discrepancy in the correlation between overall SUEIT with TL and overall EIQ with TL for in-agreement/good/poor focal leaders in this exploratory analysis (Q2.9). Furthermore, the nature of the two instruments – SUEIT and EIQ also warrant further analysis (discussed earlier in section 12.8.1).

13.4.2 EI AND TL LINKAGE FOR OVERESTIMATORS

For overestimators, leaders' EI self-ratings both on the SUEIT and EIQ model was positively related to the followers' perceptions of these leaders' TL (H2.9).

This supports the contention that an overestimating leader's propensity to portray themselves as sensitive, caring and emotionally adept is reflected in their self EI ratings which in turn has some impact on them being perceived as transformational leaders by their followers. High levels of public self-consciousness and self-monitoring, has been associated with overestimators through inflated self-ratings (Atwater & Yammarino, 1997; Sosik & Megerian, 1999). Therefore, it is arguable that overestimators by virtue of being overestimators or the tendency to inflate their self-ratings have strains of social desirability bias which would instil some emotionally intelligent or even pseudo-emotionally intelligent behaviour which in turn would help them to be seen as transformational leaders, better definable as pseudo-transformational leaders.

Pseudo- TL is the term employed to refer to unauthentic or pretend TL behaviours emulated mainly through the two components of 'idealised influence' and 'inspirational motivation'. Ideally, authentic 'idealised influence' will entail leaders emphasising group of follower interests over and above their own self-interests based on sound ethical and moral principles (Kark et al., 2003). According to Bass and Steidlmeier (1999) pseudo-TL will entail advancing self-interests and exerting

control and influence over their followers. Their focus tends to be self-promotion and thereby becoming an idol, rather than furthering 'collective ideals' which would ensure and enhance follower welfare (Bass & Steidlmeir, 1999; Barling et al., 2008). This focus on ensuring their own personal-idolisation is linkable to the focus of overestimators to maintain a favourable self-image and being perceived in a socially desirable light. Furthermore, authentic 'inspirational motivation' will entail leaders being passionately committed to and communicating the organisational vision in a manner that inspires the allegiance of followers and motivates them to materialise the vision (Howell & Avolio, 1992). While pseudo-TL entails a similar level of dexterity in communicating and galvanising follower commitment and support; the ulterior agenda of the pseudo-transformational leader is pro-egotistical rather than pro-social (Barling et al., 2008). Thus, pseudo-TL encompasses inspirational motivation which is driven by self-interest rather than follower welfare or collective organisational goals (Barling et al., 2008). Yet again, this inner-directed, self-centred focus of pseudo-TL can be strongly aligned with the egoistic, self-enhancing traits of overestimators. Hence, it may be claimed that overestimators engage in pseudo-TL (Bass & Steidlmeir, 1999) and therefore a strong positive relationship is noticeable between their self EI ratings and their follower-ratings of TL.

Following a similar thought pattern, it is being reasoned that some leaders may engage in unauthentic or fake EI. In order to capture the potential existence of unauthentic or even unethical EI – the term pseudo-EI is being introduced here. It is being suggested that pseudo-emotionally intelligent individuals are not genuinely emotionally intelligent; however, through impression management techniques and as a result of their social desirability they may emulate some EI traits which then link with to TL or pseudo-TL behaviours; thereby explaining the positive association between EI and TL for overestimators. Exploring this concept of pseudo-EI is beyond the scope of this thesis, however future research in this milieu is recommended.

13.4.3 EI AND TL LINKAGE FOR UNDERESTIMATORS

For underestimating leaders; as predicted, no significant association was found between self-ratings on EI (for both the SUEIT and EIQ models) and follower-ratings of underestimators' TL (H.2.10).

These findings support the argument that underestimators' low sense of self-worth (Sosik & Megerian, 1999) and low self-confidence leads to them underscoring themselves compared to their followers; which may be related to a lower level of self-awareness and self-awareness is a core component of the EI models. However, the construct of TL entails higher levels of self-confidence (Ross & Offerman, 1997) in order to present themselves as role-models, effectively communicate future-oriented visions and convincing followers of the immense value of their contributions to the collective goals of the organisation. However, Sosik and Godshalk (2004) found that individuals who underestimated their own TL, displayed a higher propensity to provide psychosocial support. This can be logically related to the individualised consideration component of TL, thus suggesting high TL for underestimators. This explains the lack of any significant association between EI and TL for underestimators.

Underestimators may be described as modest, which might lead to occasions whereby they engage in lower levels of emotional expression. Overall, their modesty and low self-confidence could create some uncertainty or instability in their emotional resilience, a key aspect of EI. EI and TL have been found to be positively correlated in Phase 1 (H1.1) and both the EI models predict TL to some extent (H1.4). Therefore, the uncertain or unstable EI status would not relate to the relatively higher follower-ratings of TL unlike the more stable and resilient tone of EI, which does link to TL. This further explains the absence of a significant relationship between self-rated EI and follower-rated TL of underestimating focal leaders.

13.5 CONCLUSION

This chapter has interpreted the findings in relation to studying focal leaders in SOA categories of overestimators, underestimators, in-agreement/good and in-agreement/poor; essentially based on their follower-ratings. The leaders were classified into these categories by comparing their self-ratings and follower-ratings on TL.

The follower-ratings of these leaders EI and OL in the NHS context was compared. It has been evidenced and argued through the phase 1 results, analysis and discussion that EI is a major antecedent of TL, which is a key leadership style conducive to change. Furthermore, high EI and high TL has also proven to link to higher OL within the NHS in phase 1 of this study. Therefore, the follower-ratings on EI and OL across the four SOA categories has helped compare follower perceptions and leader perceptions in the various SOA leader categories and evaluate which SOA leader category is most conducive to leading transformations within organisations like the NHS.

Comparing EI across the four SOA categories showed that on balance overestimators were evaluated by followers as demonstrating the lowest level of EI on both the SUEIT and EIQ measures. Similarly followers adjudged overestimators as exhibiting the lowest levels of OL suggesting that they perceived the overestimating focal leaders as demonstrating the lowest level of effectiveness, extra-effort and generating the least amount of follower satisfaction. These results have led to the conclusion that overestimators are over-confident, are highly self-focussed, concerned with portraying themselves in a socially desirable manner, engaged in impression management and work towards a self-focussed career agenda. Unfortunately, overestimating leaders are being argued to be uninterested in the genuine welfare of their followers and are therefore construed to be predisposed towards pseudo-TL behaviours rather than authentic TL. They would be more interested in using their EI in impression management towards their superiors and people who they believe would influence their career progression. Hence the likelihood of taking genuine interest in their followers, being sensitive to their needs, managing emotions,

ensuring a conflict-free, generating a productive working environment for followers would not be on their priority list. They would struggle to acquire follower allegiance to change initiatives through their inadequate EI. Therefore, overestimators low EI and low OL indicates that overestimating focal leaders are least suited to lead, manage and implement dynamic changes in organisations like the NHS.

Underestimators in contrast to overestimators demonstrated higher scores on both measures of EI as well as OL, compared to most of the other SOA categories. The high EI for underestimators is symptomatic of followers' perceptions that underestimators are self-aware, high in recognition and comprehension of follower emotions, adept at conflict-free emotional expression and management. These results have helped deduce that underestimating focal leaders informed by their high EI, have effective negotiation skills, long term orientation, effective decision-making skills conducive to aiding transformational activities in organisations like the NHS. The high OL ratings awarded to underestimators by followers shows that followers hold these leaders in high esteem and are satisfied with these leaders. Therefore, they would be more allegiant to their leaders and more likely to subscribe to the organisational vision and transformations led by these underestimating leaders. Their low self-ratings on TL indicate low self-confidence and an ardent desire of self-improvement, hence they are likely to act upon follower feedback unlike overestimators and improve their leadership qualities. Therefore, with their high level of EI, TL and OL in the eyes of their followers; underestimating leaders are arguably most suited to effective lead in environments of dynamic change like the NHS.

The results pertaining to the in-agreement/good and in-agreement/poor group has been inconclusive in this study and does not necessary confirm or refute previous studies. Neither group demonstrated the highest or lowest EI or OL scores. Therefore, more research is being recommended on the in-agreement category of focal leaders and its sub-classification. Precedent studies have also recommended rethinking the in-agreement focal leader sub-classifications (Fleenor et al., 1996).

The above recommendation ties in further with the correlation results found between focal leaders' self-ratings of EI with follower-ratings of their leaders' TL for the in-

agreement/good and in-agreement/poor categories. Moreover, the factorial differences between the two EI measures SUEIT and EIQ have also been held responsible for the variance in the correlation results obtained for in-agreement/good and in-agreement/poor focal leaders. However, this chapter has shown that at the individual factorial level, similar components on the SUEIT and EIQ displayed strong correlations with TL factors.

A positive linkage was revealed between overestimating leaders' self EI ratings and follower-ratings of their TL. Overestimators have been argued to indulge in impression management, highly confident and engaged in socially desirable self-presentation. Therefore the concept of pseudo-EI has been introduced and attributed to overestimators who might display some level of EI, however it is unlikely to be genuine. They are likely to have lower levels of EI compared to the other SOA categories as discovered in this study. Furthermore, followers have awarded these leaders much lower TL ratings than their self-ratings, and the positive association of these low TL ratings with the EI ratings further confirm the presence of pseudo-EI as well as pseudo-TL in the behaviour of overestimators.

No association was reported between underestimators' self-ratings of EI and the follower-ratings of these leaders' TL. This has highlighted the mismatch between underestimators' self perception and their actual EI, TL, effectiveness, interpersonal skills, welfare-orientation towards followers, as per their followers' perceptions; with followers evidencing substantially higher and favourable opinions about their underestimating leaders EI and OL compared to their own views as well as compared to the other SOA categories. Hence, it is unsurprising that no relationship was demonstrated between self EI and follower TL ratings for underestimators. However, these results strongly corroborate the earlier argument that underestimators are the leaders most suited to lead transformations in volatile environments like the NHS.

CHAPTER 14: CONCLUSION, CONTRIBUTION AND IMPLICATIONS

14.1 CHAPTER INTRODUCTION

This chapter concludes this thesis. First an overview of the whole research is provided. This is followed by the identification of the key contributions of this PhD study to knowledge and theory, methodology and to management practice. The current relevance of this study to the NHS is highlighted. Finally the strengths of this study, the limitations and future research possibilities have been evaluated.

14.2 OVERVIEW

This study aimed to examine and demonstrate the relationship between EI and leadership conducive to change within an organisational environment endemic with dynamic change; in this study the dynamic environment of the NHS. This section captures the different ways in which this has been achieved.

First this study established the changing background of the NHS and presented primary and secondary evidence of the transformational working environment of the NHS through excerpts from interviews with NHS leaders and through quantitative survey results with NHS staff including leaders as well as followers. The evidence presented, confirmed the major and dynamic transformations the NHS trusts were undergoing at the time of this study on EI and change leadership (TL, TrL and LFL).

The literature review identified TL as the leadership style considered to be most effective in environments characterised by change. The literature review and research justification captured erstwhile studies suggesting a link between EI and leadership. In demonstrating a theoretical relationship between EI and leadership through the literature review, this study investigated the various models of EI and the extent to which they were conflicting and complementary. EI models are distinctly classifiable

into ability based or mixed-models. However, this study asserts that in the contemporary organisational environments of endemic change, both sets of EI models can have a crucial influence in predicting and enhancing leadership effective in change implementation and management. To this end, two different models of EI have been examined in this PhD study.

Having studied the various philosophical paradigms of social science research, this researcher aligned with the positivist philosophical paradigm subscribing to a realist ontology and positivist epistemology and adopted quantitative methods with minimal researcher bias. Copyright protected, valid and reliable psychometric instruments and self-developed Likert scale items were employed to study the different variables of leadership (MLQ) and EI (SUEIT and EIQ). Self-developed items investigated the level of change involvement and extent of impact of the changes on the participants. Furthermore, the MCSDS was used to check and control for social desirability bias in responding. Ethical issues were appropriately addressed by this study ensuring confidentiality, anonymity and data protection. This study underwent a rigorous research review by the NHS Ethical Committee and individual NHS trusts prior to data collection.

This research investigates the relationship between EI and leadership in two separate phases. The first phase is based on leader self-ratings only, while the second phase evaluates both leader self-ratings and follower-ratings of their leaders. Reliable and robust sample sizes of 309 and 220 were obtained for phase 1 and phase 2 respectively. Therefore, phase 1 had 309 leaders and phase 2 had 220 dyads of leaders and followers.

Leadership is not a solo act. Leadership is a process which is complete only when followers enter the frame. The majority of studies on leadership have taken into account perceptions and ratings of the leaders only. EI is a construct which has appeared and been studied only in the last two decades and therefore the studies on EI and leadership have been predominantly based on self-ratings and self-perceptions of leaders thereby the field of EI and leadership has been suffering from a major dearth of studies accounting for both leader self-ratings and follower-ratings on their leaders. This is unsurprising as obtaining data from reporting staff is extremely

challenging in terms of ethics, confidentiality and willingness of leaders and followers as it places them outside their comfort zones. This PhD study has attempted to bridge this prominent gap by addressing these challenges and obtaining both leaders' views as well as their followers' views on them. This has helped to make the findings more robust and has shed invaluable light on the complex minutia of the association between EI and desirable change leadership and the association between leaders and followers within changing environments.

This investigation has determined that the answer to the question – 'Is there an association between EI and change leadership?' is in the affirmative. This study has demonstrated this positive association in a number of ways. First through the significant positive correlation between the two EI models – SUEIT and EIQ with TL, based on leaders' self-reports. Furthermore regression analysis revealed a significant predictive power of both SUEIT and EIQ to predict a substantial amount of variance in TL. Interestingly, both the SUEIT and EIQ demonstrated a minor but significant amount of incremental prediction power of TL over each other. This supports the assertion of this study that different EI models are complementary rather than contradictory and all the models have unique roles in enhancing change leadership. Furthermore, this study also discovered a significant positive correlation between both the EI models and the transactional leadership component of 'contingent reward', providing some support for the contention that TrL can also be beneficial in leading change.

Another important revelation of this study is the strong positive association found between the two EI models/measures: SUEIT and EIQ. By virtue of the factor components of each model, the former is arguably aligned with the ability stream of EI and the latter with the mixed-model stream of EI. The correlation between the two was adequate enough to confirm the two models are measuring the same construct, and yet it was not high enough suggesting distinctiveness between the two EI measures.

Positive relationships were reported between EI and OL as well as TL and OL components in this study, thereby confirming the conjecture that high EI and high TL yields better leadership outcomes during organisational change. Gender differences

were also uncovered for the two EI models and TL. SUEIT, the ability model revealed higher EI for female leaders while the EIQ model did not reveal any differences. This is in keeping with preceding studies investigating gender differences in EI. Moreover, female leaders manifested higher TL behaviours than their male counterparts. Therefore, based on the revelation that EI can enhance TL behaviour, and the higher EI and TL for female leaders, it is being deduced that female leaders have a higher propensity to be successful leaders within a change environment like the NHS.

Phase 2 classified leaders into overestimators, in-agreement/good, in-agreement/poor and underestimators by comparing SOA between leader self-ratings and follower-ratings of the leaders' TL. Thereafter, this study found that the leaders classified as underestimators were actually perceived as more emotionally intelligent than the other leader SOA categories by their followers, on both the SUEIT and EIQ measures. Moreover followers also considered underestimators as more effective, investing extra-effort and making followers more satisfied with their leadership compared to the other SOA categories. In contrast, overestimators were awarded the most unfavourable ratings by their followers on both EI and leadership outcomes. This highlighted the effectiveness of underestimators and the undesirable impact of overestimators within the transforming environment of the NHS.

Furthermore, the linkage between EI and TL for each SOA category was investigated by analysing correlations between EI and TL across all the SOA categories. Leader self-ratings of EI were correlated with follower-ratings of the leaders' TL. Strong positive correlations were found between EI and TL for overestimators and no significant correlations were found for underestimators. This showed that underestimators' self perceptions of EI had no bearing on their followers' perceptions of their TL, highlighting the low self-esteem and low self-perception of underestimators yet their effective TL behaviour, follower allegiance, adaptive nature and perpetual efforts to be effective making them flexible and suitable to leading within a transformational work ambience.

The findings from this thesis are highly relevant to the NHS in the extant environment of transformation. The NHS employees at different levels are

undergoing similar issues as they did during the duration of data collection for this study. The NHS reforms announced by Andrew Lansley (Walshe, 2012) and being implemented by the current coalition government (in office, since May 2010) have resulted in an environment of monumental change strongly identical to the one the NHS went through during data collection of this study involving the merger of trusts, abolition of trusts, restructuring, job losses, redeployment and so on (see Chapter 2). These findings may also be applicable beyond the NHS to organisations with similar characteristics of turbulence; facing mergers, closure of departments, job risks, redundancies, restructuring, culture change and so on.

14.3 CONTRIBUTION TO KNOWLEDGE AND THEORY

This research study has contributed to the knowledge base of EI and leadership theory in various ways. These are highlighted below.

Having reviewed the published literature, this study appears to be the first piece of research to study the association between mixed EI as measured by the EIQ and TL/TrL and LF leadership as measured by the MLQ. Earlier studies linking the EIQ and change leadership have employed alternative models and measures of change leadership like the Leadership Dimensions Questionnaire / Leadership Development Questionnaire developed by Dulewicz and Higgs (2005) (Young & Dulewicz, 2006; Hawkins & Dulewicz, 2009; Turner et al., 2009). This is of high value as both these models and measures are extensively employed in consultancy and training settings. Therefore this study helps to build knowledge regarding the relationship between the EIQ model of EI and the FRL model.

Results with the EIQ and FRL replicates earlier results obtained with the SUEIT and FRL (Gardner & Stough, 2002). Interestingly the nature of association found between SUEIT and MLQ and between EIQ and MLQ in this thesis; is also very similar for leader self-ratings (phase 1). This is the first study which employed the SUEIT and EIQ simultaneously to study the nature of the association between EI and the FRL model especially TL. This has drawn attention to the similarity in the linkage between two distinct EI models and FRL, thereby contributing to the

knowledge base on the nature of interlink between EI models and leadership, especially TL. These results may be used as a basis for rethinking the classification system of the EI models and measures as both the ability stream (SUEIT) and mixed-model stream (EIQ) of EI models had similar patterns of association with the FRL model.

The SUEIT and MLQ association has been studied in Australia (Downey et al., 2006; Gardner & Stough, 2002), however not in the context of UK till this research was conducted. Also this thesis has employed a sample of over 300 leaders, which is a significantly larger sample size than the earlier studies investigating the association between SUEIT and MLQ. Gardner and Stough (2002) had 110 respondents, while Downey et al. (2006) had 176 female respondents. Furthermore this study pioneers investigating the linkage between SUEIT and MLQ in the UK healthcare context.

This study has created knowledge on the nature of association between EI and FRL elements of TL, TrL and LF leadership within the NHS environment where change is endemic. This thesis has collected data from seven different trusts in the north of England, therefore these results maybe generalisable to other NHS trusts in England going through dynamic transformations.

This is the first research to study the predictive association between EIQ and TL as measured by the MLQ and confirm a predictive association. This study also confirms the only two earlier studies (Downey et al, 2006; Gardner & Stough, 2002) that found a predictive association between SUEIT and TL. However, Downey et al. (2006) studied only female participants. Results from this thesis pertain to male and female respondents and thesis also used a much larger sample size than Gardner and Stough (2002). Therefore results from this thesis are more robust and applicable to both male and female leaders.

As indicated earlier, this is the primary piece of research to study the SUEIT and EIQ simultaneously with the same data-set. This thesis adds to knowledge by revealing the strong correlation between the two instruments. The correlations are not strong enough to indicate that the two models are identical; but are measuring similar

constructs. This finding is very valuable for strengthening the EI knowledge base and for training and development purposes.

This is also the first research studying the incremental validity of the SUEIT and EIQ instruments in predicting TL. The similar pattern of correlation demonstrated by the SUEIT and EIQ with TL/TrL/LF leadership combined with the minor incremental validity which each instrument demonstrates over the other in the regression analysis, shows that both EI models are adept at predicting TL and would be appropriate for use in developing change leadership skills. This finding is of potential value in the training and development context, especially in the NHS environment.

The regression analysis results may also be used as a basis for further research on the psychometric properties of these instruments. The minor difference in incremental predictive validity may be interpreted as showing a further need to clarify the difference between the EI streams or whether the differences between the measures are mostly a result of response-method bias. These results could add to the basis for further research on which measures of EI are more appropriate or accurate – self reports (of ability EI models and mixed-models of EI) or objective ability measures as none of the EI measures are free from criticisms.

A key knowledge contribution of this thesis is that both the SUEIT and EIQ models of EI can be instrumental in the development of leadership skills conducive to change, particularly TL and elements of TrL like contingent reward. This is also particularly interesting as it shows that contrary to popular belief, people inclined to initiate change engage significantly in TrL behaviours as well as TL. This provides support to the claims of some authors stating that effective leaders would employ transformational and transactional behaviours (Vera & Crossan, 2004).

This study has highlighted interesting gender differences in the two EI models. Of particular interest are the conflicting results on gender differences between EI as measured by the SUEIT and EI as measured by the EIQ. This is a classic example of the inconclusive nature of the debate on gender differences. The gender differences may also be related to the slightly different nature of construct manifested by the two EI models (ability EI and mixed EI). Further studies are recommended in this area.

In terms of leadership, this study confirms earlier results regarding gender differences in TL, TrL and LFL. Earlier findings where females were found to be higher in TL than males, were corroborated in this study (Rosener, 1990; Schyn et al, 2008). This study also confirms results displaying significantly higher management-by-exception (passive) scores for male leaders (Antonakis et al, 2003). This thesis found no gender difference in LF leadership, similar to an earlier study using Flamholtz's (1986) Leadership Effectiveness Questionnaire (Gibson, 1995). However, some other studies using the MLQ found higher male scores for LF leadership (Eagly et al., 2003). Thereby, this piece of research also contributed to the yet inconclusive debate on gender differences. This thesis has augmented to the literature on gender differences in leadership and gender differences in EI, in a number of ways. Findings from this study enhance the inconsistent literature on gender in leadership and EI.

The second phase of this study has made valuable contributions through the analysis of the combination of leader self-ratings and follower-ratings of these leaders. Approximately 220 leader-follower dyads were analysed in this study. This study classified leaders into four SOA categorisations based on their self-follower TL ratings: overestimators, in-agreement/good, in-agreement/poor and underestimators. This is the first research studying leaders' EI in SOA categorisations through validated psychometric EI instruments. Only two pieces of published research has studied the self-awareness aspect of EI using proxy measures of EI (Sosik & Magerian, 1999) and selected subscales of the Emotional Quotient Inventory highly likened to personality traits (Bratton et al., 2011). However, unlike these two studies, this thesis has studied all the EI components across leader SOA categories employing complete validated psychometric instruments. Furthermore, this study has studied the EI of transformational leaders across four SOA categories, whereby the in-agreement category has been fine tuned into in-agreement/good and in-agreement/poor; as opposed to an undivided in-agreement category as in the study by Sosik and Megerian (1999). This is also the only piece of research which has analysed the correlation between complete EI models (leader self-ratings) and follower-ratings of leaders' TL in four SOA categories (with in-agreement/good and in-agreement/poor

categories) as opposed to three SOA categories (with the undivided in-agreement category).

14.4 METHODOLOGICAL CONTRIBUTION

Some of the theoretical consideration identified above may also be perceived as methodological contributions. These are indicated in this section.

There is a dearth of studies comparing the impact of different EI models on EI with the same dataset. This piece of research has addressed this methodological gap and revealed that both ability EI components and mixed-model EI components can play an imperative role in predicting and catalysing TL behaviours.

As a by-product of the above attempt, the debate on psychometric properties has been augmented. The incremental power of each EI measure to predict aspects of TL over and above each other has reinforced the unique position of each EI model while substantiating the claim by Ciarrochi et al. (2000) that most EI models are complementary and not contradictory.

Contingent reward component of TrL demonstrated a positive association with EI similar to the TL components providing some more support for the argument that contingent reward is a factor that maybe aligned more with TL than TrL based on statistical factor loadings (Bycio et al., 1995).

The final methodological contribution of this research is the study of the complete EI models through the classification of leaders into 4 as opposed to 3 SOA categories whereby the in-agreement category has been classified into in-agreement/good and in-agreement/poor.

14.5 CONTRIBUTION TO PRACTICE: MANAGEMENT

The most relevant contribution to practice is that findings from this study can directly inform management practices in the NHS. Through primary evidence this thesis has established that nearly all members of staff (leaders and followers) in the NHS are impacted on by the transformations within the NHS. First and foremost this study provides empirical evidence to suggest that EI predicts TL, therefore, indicating that the NHS which is embroiled in extensive change could be significantly advantaged through the development of the EI capabilities of their leaders. EI also enhances TrL behaviours (contingent reward) helpful in successfully leading change. Therefore, investing in training and development of leaders' EI has the strong potential improve the ability of these leaders to lead within a changing environment.

Furthermore, this thesis has revealed that leaders who were perceived by their followers to have the highest level of EI (underestimators) were also adjudged as the most successful, effective and satisfactory on generating high level leadership outcomes. Moreover, EI and OL as well as TL and OL showed significant positive associations. Yet again, this indicates that strong benefits that the NHS could reap by training their leaders in enhancing their EI and developing skills to effectively apply their EI within the highly transitional NHS environment. This is of particular importance as followers in the NHS provided the above ratings on their NHS leaders.

It has also been argued by this thesis that having developed skills in EI, leaders will be more effective negotiators and will be able to mediate well in conflicting and disruptive situations. This is extremely important as changes always tend to generate resistance from various parties. Hence, in order to be innovative and visionary, leaders can gain a lot of momentum by garnering allegiance to the changes through EI informed negotiation, mediation and attention. Therefore developing EI will also lead to a positive working environment.

This study has some implications for female leaders in change-ridden organisations. Female leaders manifested higher TL and also higher EI on one of the EI models. Male leaders did not demonstrate higher scores on TL or EI. This provides some

justification to enhance leadership responsibilities of women within transformational environments like the NHS. Some authors suggest that gender bias can hinder the career progression of women in the workplace (Burke & Collins, 2001). Women also underestimate themselves and struggle to sell themselves; despite being exceptionally competent. Therefore these results of this study, imply there is a case to hiring and promote women to higher leadership positions to help effectively lead organisations in a state of flux.

Clearly individuals who are high in EI and who employ EI in their dealings are able to enhance joint value for the organisations, however they may not necessarily get or claim the reward and recognition for their skills and efforts (Foo et al., 2004). This particularly applies to underestimating focal leaders in the NHS. They rate themselves low on TL, while their followers rate them much higher on TL, OL and EI. This means underestimators are making an excellent contribution; however, they are unable to claim credit for their efforts due to their humility or lack of self-confidence. Therefore, underestimators may still benefit from EI training, with a particular focus on appropriately selling themselves and forwarding themselves for promotions and career-advancement which may otherwise elude them. In this way, leaders who are truly effective and have EI will enter the recruitment pool for leadership with higher responsibilities.

Stress is highly symptomatic of the rampant changes the NHS appears to perpetually undergo with each round of election and government agenda. The strong link between EI and effective change leadership can be argued to have a knock on effect enabling leaders to effectively address stressful situations within a change environment. This would be particularly true of underestimating leaders and leaders-in-agreement.

Follower involvement can be crucial in developing leaders. The results obtained across the SOA categories can inform training and development based on 360 degree feedback. Underestimators were rated by followers as the highest on OL and EI, while overestimators were adjudged as the lowest on OL and EI. This has important implications for practice. Some evidence shows that overestimators revealed better performance after receiving upward feedback (Johnson & Ferstl, 1999). Therefore a

contribution to practice is the evidence this study provides of how imperative follower feedback is in the identification and development of required leadership skills. Furthermore, coaching and mentoring programmes which are key aspects of TL (individualised consideration) can use these results to inform the type of leadership skills; focal leaders from the different SOA categories would benefit by developing.

The clear indication that high EI predicts TL and high EI relates to lower LFL can have recruitment and selection implications favouring the appointment of individuals with high EI in the NHS. This coupled with the significantly higher scores awarded by followers to underestimators on EI, TL and OL can also encourage a preference to promote underestimating leaders. Therefore, appropriate selection criteria can be developed using necessary psychometric tests, training programs building on EI and self-awareness. These results can also contribute to talent management within NHS. However, there is a need to exercise caution and not simply use EI measures alone for placements and recruitment/selection. Nonetheless these results and the measures of EI and leadership can substantially benefit self development, career counselling other social contexts in the NHS.

The purpose of the follower-ratings here was solely for research purposes. These evaluations had no connection or bearing on the focal leaders in terms of administrative decisions about pay or promotion. NHS Leaders were provided feedback based on their self-ratings of EI only. Some respondents have used these results towards their personal development portfolio. This has therefore also been a positive practical contribution of this PhD study.

14.6 CURRENT RELEVANCE TO NHS AND OTHER ORGANISATIONS

The NHS is continuously transforming; therefore this study has taken into account the NHS change context until early 2012. By the words, ‘current relevance to NHS’, the above title is referring to the transformations faced by the NHS until 2012, which is when this PhD study was concluded. The evidences reported in this thesis are

highly relevant to the NHS in the current political and economic environment. Similar to when the data was collected for this thesis, the NHS is yet again battling turbulent transformations of a monumental magnitude. Large number of PCTs have been abolished and many more are facing the prospect of abolition while GPs practices are faced with substantially higher budget control power and responsibility (Walshe, 2012; Walshe & Ham, 2011). This has placed a large number of jobs 'at risk' and rendered many people redundant. Pay has been frozen and an increasing number of services are being commercialised and privatised. Therefore it is crucial that leaders manage and incorporate these transformations in an emotionally intelligent manner ensuring the maintenance of a productive and supportive working environment as well as staff well-being.

The current NHS changes being proposed and mobilised by Andrew Lansley, the Health Secretary entail significant NHS reforms including the abolition of the PCTs, budgetary concerns being passed onto a Consortia of GPs (BMA, Kings Fund, Nuffield Trust, Royal College of Nursing), passing on budgetary and management control to GPs, privatisation and commercialisation of various NHS services using the argument of eventually trying to save 20 billion a year. These changes have put into gear substantial large scale changes forcing hospitals to cut-back spend money on re-organisation which could potentially turn the NHS into a full scale market. More competition from charities and private companies is being foreseen along with the possible need to offer patients an alternative to the NHS for some out of hospital care in the near future.

These changes have led to the emergence of severe resistance from different stakeholders. Doctors and nurses want the bill scrapped as they say that it's destabilised the NHS and they have described the Health Bill as a piece of flawed legislation. Without support from Doctors, nurses, midwives unions, this has generated a spur of grievances being put forward from various NHS staff. The Health Bill has been put on pause once and it has been revealed that further changes to some parts of the bill have been put to the House of Lords.

Therefore the NHS is currently embroiled in a major shakeup resulting in low morale, uncertainty, anxiety, instability, culture change, new executive leadership.

Symptoms manifested in these change efforts replicated the ones that were captured through the primary interviews evidenced in chapter 2 including changes in working terms and conditions, a different ways of working, challenges in delivering the day-to-day business, trust mergers, privatisation of NHS services, financial constraints and so on. Therefore, the results reported in this study are currently highly relevant in the present day NHS scenario.

Due to the current socio-economic and political environment characterised by recessionary changes and major efforts to overcome the recession; nearly all organisations and industries are undergoing dynamic change in an attempt to ensure sustainability and a competitive edge. The inability to adapt to the changing financial, legislative, political constraints have resulted in the closure and liquidation of a number of organisations or the functioning on huge losses resulting in major redundancies. These organisations could also benefit from enhancing the application of emotional intelligence and TL. Results can be useful to other organisations as well, if taken into account with caution, bearing in mind the different organisational contexts, nature and structure. Future research could attempt to replicate the study of this thesis in the private sector setting.

14.7 STRENGTHS OF THIS STUDY

A number of strengths of this research have been elaborated in the sections on contribution. Some of these strengths include this being the first study employing the two models of EI: SUEIT and EIQ as representatives of the ability and mixed-models of EI; this study has investigated the association between EI and change leadership through leader self-ratings as well as follower-ratings.

Further strengths are explained here. First this study was subject to a very rigorous ethical approval process with the NHS central research ethics panel and the research governance of each of the seven trusts. This has ensured adherence to strict ethics protocol of the NHS and the university department ensuring confidentiality, anonymity, informed consent, freedom of participation/withdrawal and data protection.

Secondly the data obtained for this study has enhanced the normative data for each of the EI instruments. Thirdly, the sample sizes for both phases are very large and robust ensuring robust results with 309 leader self-ratings and 200 leader-follower dyads. Furthermore, the response rate for the second phase was very high at fifty percent.

This study has employed standardised, valid and reliable instruments to investigate the different constructs. Therefore, fourthly, this study added to the normative data sets for the SUEIT and EIQ instruments. Furthermore, till date, the SUEIT has been employed mostly in the Australian context. I believe, this is one of the pioneering studies employing the SUEIT in a British context.

The fifth strength takes into account that self-report measures are widely criticised for being susceptible to social desirability bias (Schutte et al., 1998; Lindebaum & Cartwright, 2010). By employing the MCSDS and conducting partial correlations controlling for social desirability bias, this research has shown that social desirability resulted in negligible difference in the association between EI and FRL. Evidence to this effect has not been clearly presented elsewhere. This has also demonstrated the strength of this study. Moreover, by employing leaders' self-ratings as well as follower-ratings of leaders, this study has responded to the call for multi-rater assessments to overcome social desirability bias in self-report measures (Roberts et al., 2001; Lindebaum & Cartwright, 2010).

Moshavi et al. (2003) point out that SOA is a "function of variation of both self-reports of leadership capacity and the perceptions of others" (Moshavi et al., 2003: 416). These are not absolute differences; however it may be argued that perceptual differences are more important in the organisational functional context than absolute values as we work in an environment of people and within people's perceptual context.

The seventh and final strength of this study is in the primary data evidencing that the NHS was embroiled in a major state of flux when this study was conducted. This thesis studies change leadership, therefore, proving that the leaders and followers

were within a change environment is a major strength of this study. Primary evidence of change was documented from all participants through open ended questions in the survey and through traditional interviews with key players in the trusts who had an overall vision of the future of the trusts.

14.8 LIMITATIONS AND FUTURE RESEARCH RECOMMENDATIONS

This study has employed only leader self-ratings and follower-ratings as opposed to 360 degree feedback including peer and superior evaluations. Rater feedback can suffer from single source bias and most studies do not use the full 360 degree set of feedback (Vecchio and Anderson, 2009). The results of this study could be enhanced in future by including peers and supervisors / line managers to rate the focal participant through a 360 degree feedback approach. This could also reveal very enlightening information on EI, leadership, personality and performance across SOA categories of leaders. One future recommendation is to use supervisor ratings and create self-other ratings by comparing self-supervisor/manager ratings and compare this with self-follower ratings.

Methods-wise this study with SOA categories could be tested using polynomial regression to see whether the two systems might reveal different conclusions. This comparison has not been undertaken here due to time constraints and could be opportunity for future studies.

In future, it will be interesting to evaluate the EI of the followers and the leader and then examine if their joint EI levels had an impact on the leadership effectiveness and outcomes. EI may also be seen as an interaction phenomena rather than an individual skill.

This study could be limited by non-response bias as data was collected through postal mail. Although statistically the probability of non-response bias is extremely low (Burke and Collins, 2001).

After aggregation and categorisation, the sample size for the in-agreement/good and in-agreement/poor groups had 15 and 23 focal leaders respectively, although the total sample size is extremely robust with over 200 dyads. Therefore future studies could attempt to replicate these tests using larger aggregated categories.

The results here may contribute to some of the concerns that have been raised about the factorial structure of the MLQ (Bycio et al., 1995). Therefore a different measure of TL [e.g. Alimo-Metcalfe and Alban-Matcalfe's (2005) TLQ] may be employed to investigate whether a similar association is found between EI and TL.

This study classified leaders based on their self-other TL score. It will be interesting for future studies to classify leaders groups based on their self-other EI ratings and create categories of Equi/Unequi Perceptive (High/Low) EI leaders. Future studies creating SOA categories as per EI ratings could shed very enlightening results on the interaction between EI and leadership. Furthermore, it would be worth measuring the self-rated and peer-rated EI of followers and investigating whether the interactions had an impact on the self-rated and follower-rated change leadership perceptions. It would be interesting to study the possible impact of followers EI on leaders TL/TrL behaviours.

Future research could extend this study by investigating whether there is an association between age, seniority, gender and the SOA categories of focal leaders and thereafter investigate the interlink between EI and change leadership when categorised in this manner. In addition, superior ratings of focal leaders EI and performance may be compared to that of follower ratings.

Job experience and biographical factors can influence self-ratings (Atwater & Yammarino, 1997). Tenure and emotional stability can impact on other-ratings (Atwater & Yammarino, 1997; Fleenor et al., 2010). Furthermore, a leader's position in the organisation may affect the nature of self as well as other-ratings. The number of years that a follower has spent with the leader can also influence follower-ratings of the focal leader. Future studies could take this into account. Other demographics can also be studied including career ladder and career pathways. There is a need to study leadership by factoring in contextual factors. This needs to be done by

accounting for contextual factors while designing the methodology, collecting data and analysing data. Research findings on whether predictive associations are informed by context would be beneficial (Antonakis et al., 2003).

This study has not done a regression analysis between EI and the TrL factor of contingent reward. Studying the regression of the EI models on TrL in the context of change, will be beneficial in future.

The gender of the rater and the ratee could have an impact on the follower ratings of the leaders' EI. Differences have been discovered based on the gender of the leader and follower in terms of leadership effectiveness. Therefore, examining the interaction of leader and follower gender on EI ratings has a potential to harness a whole plethora of interesting results and contribution to knowledge.

Research on EI has been primarily in the positivist paradigm using quantitative methods. The field would be enriched with contributions from qualitative studies and triangulation studies in the future.

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APPENDICES

APPENDIX 1
Participant Information Sheet
For Leaders participating in the Survey



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Participant Information Sheet - Questionnaire

Leaders/Managers and Staff in the NHS Management

(Change Leadership and Emotional Intelligence)

Date as postmark

Dear Colleague

This letter has been forwarded to you by the NHS trust or PCT where you are working. **Your employers have not passed any names or addresses to us.** I am a PhD student and our purpose in writing to you is to tell you about my research being undertaken at the University of Hull. Should you agree to take part, all information that you give to us will be treated in the strictest confidence.

Invitation

You are being invited to take part in a research study. Before you decide whether to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information. If there is anything that you don't understand, or if you would like further information, please contact us.

Thank you for taking time to read this.

What is the purpose of the Study?

The study aim is to examine the impact and implications of the change leadership and emotional intelligence within the workplace environment of the NHS endemic with change. The aim will be to examine the nature of association between emotional intelligence and change leadership. This is expected to have beneficial implications in terms of appraisals, training, development, recruitment, selection and decision making in the change environment of the NHS.

By change leadership we are referring to the likes of transformational leadership that is conducive to implementing and managing change and transformation in dynamic environments like the NHS. Emotional Intelligence refers to the *intelligent use of one's emotions*. It encompasses understanding one's own and others emotions and thereafter managing one's own and others emotions in the best way possible in order to ensure positive, favourable and quality output.

In the first part of the study we are inviting you to complete a questionnaire in relation to your experiences and behaviour at work. Simultaneously, we would like to undertake face to face interviews with some leaders/managers. In the second part of the study we would like to request some of your staff to complete the same questionnaires on change leadership and emotional intelligence. Information sheets about the face to face interviews and second part of the study is included.

Why have I been chosen?

You have been invited to take part in the study because you are a manager within the NHS and satisfy a leadership role within your department.

Do I have to take part?

The decision to take part is entirely voluntary, if you do not wish to take part you do not have to. If you agree to take part and then, during the course of the project you change your mind, you can withdraw at any time by contacting me on 01482 464767, email S.Mukhuty@hull.ac.uk.

What do I have to do?

If you are happy to take part in the project, we would like you to complete the questionnaire enclosed and return it in the large addressed and stamped envelope provided. We would also like you to sign the consent sheet and return it along with the completed questionnaire. Your contact details will be held on a project database, separately from coded responses for the duration of the study i.e. until December 2007. If you wish to receive feedback on the emotional intelligence questionnaire you complete, please fill in the relevant details on the consent sheet.

Will my taking part in this study be kept confidential?

The responses you make will be treated in the strictest confidence, no one but the research team (myself and my supervisor Professor Steve Armstrong) will have access to the data. The information you provide will not be made public in any way that could reveal your identity to a third party.

What will happen to the results of the research study?

Aggregated results will be used for research purposes of my PhD thesis and may be reported in scientific and academic journals and during conference proceedings. It is hoped to identify and provide an insight for training and development in the NHS.

You are also being offered feedback on the Emotional Intelligence Questionnaire, you complete.

Who is organising and funding the study?

The study is being carried out for my PhD study and is being funded by the University of Hull.

Contact details

If you have any queries, or would like any further information, please contact me on 01482 464767, or email: S.Mukhuty@hull.ac.uk.

Yours faithfully

Sumona Mukhuty
PhD Researcher

Encs.

APPENDIX 2

Participant Information Sheet

For Leaders participating in the Face-to-Face
Interviews



THE UNIVERSITY OF HULL



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Participant Information Sheet - Interview

Leaders/Managers in the NHS Management

(Change Leadership and Emotional Intelligence)

Date as postmark

Dear Colleague

This is an invitation to take part in a face to face interview regarding your views and opinion on the nature of changes taking place within the NHS. We would like to interview a number of managers about their experiences of the changes taking place in the NHS and their views on the impact of change leadership and emotional intelligence in the NHS. The interview will take approximately 1 hour and will be carried out, preferably, at your workplace. The interview will be audio-tape recorded with your permission and the taped recording will be destroyed as soon as the information has been transcribed. As with the questionnaire survey all information given will be treated in the strictest confidence and any information provided will be anonymised.

What do I have to do?

If you are happy to be interviewed could you please complete and sign the consent form included and return it, along with the completed questionnaire and other consent form, in the FREEPOST envelope provided. I will contact you in due course to arrange a convenient time and date for your interview. You are free to withdraw your consent at any time during the study in which event participation in the study will cease immediately and any information obtained will not be used.

Yours faithfully

Sumona Mukhuty
PhD Researcher

Encs

APPENDIX 3

Participant Information Sheet

For Leaders – Explaining Phase 2 involving their
Reporting Staff Responses



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Participant Information Sheet - Questionnaire - Reporting Staff of Leaders

Leaders/Managers in the NHS Management

(Change Leadership and Emotional Intelligence)

Date as postmark

Dear Colleague

This is an invitation to take part in the second phase of this research after the survey with managers/leaders has been completed. In addition to your responses, we would like to find out how three to five staff members reporting to you perceive your leadership and emotional intelligence. This is solely to get an insight on follower perspectives and you will not be identified in anyway, once data has been coded. They will be requested to complete a mirror reflection of the same questionnaire that you have been sent today. As with the first questionnaire survey all information given will be treated in the strictest confidence and any information provided will be anonymised.

What do I have to do?

If you are happy for some of your staff to take part in this second phase of the study, please complete and sign the relevant consent form included and return it, along with the completed questionnaire and other consent form, in the FREEPOST envelope provided. You are free to withdraw your consent at any time during the study in which event participation in the study will cease immediately and any information obtained will not be used.

(If you do not want the above to happen, then, PLEASE STILL SEND IN YOUR COMPLETED QUESTIONNAIRE and questionnaire consent form.)

Yours faithfully

Sumona Mukhuty
PhD Researcher

Encs

APPENDIX 4

Participant Information Sheet

For Followers/Reporting-Staff participating in the
Survey



THE UNIVERSITY OF HULL



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Participant Information Sheet - Reporting Staff Questionnaire

Leaders/Managers and Staff in the NHS Management

(Change Leadership and Emotional Intelligence)

Date as postmark

Dear Colleague

This letter has been forwarded to you by the NHS trust or PCT where you are working. **Your employers have not passed any names or addresses to us.** I am a PhD student and our purpose in writing to you is to tell you about my research being undertaken at the University of Hull. Should you agree to take part, all information that you give to us will be treated in the strictest confidence.

Invitation

You are being invited to take part in a research study. Before you decide whether to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information. If there is anything that you don't understand, or if you would like further information, please contact us.

Thank you for taking time to read this.

What is the purpose of the Study?

The study aim is to examine the impact and implications of the change leadership and emotional intelligence within the workplace environment of the NHS endemic with change. The aim will be to examine the nature of association between emotional intelligence and change leadership. This is expected to have beneficial implications in terms of appraisals, training, development, recruitment, selection and decision making in the change environment of the NHS.

By change leadership we are referring to the likes of transformational leadership that is conducive to implementing and managing change and transformation in dynamic environments like the NHS. Emotional Intelligence refers to the *intelligent use of one's emotions*. It encompasses understanding one's own and others emotions and thereafter managing one's own and others emotions in the best way possible in order to ensure positive, favourable and quality output.

We are inviting you to complete a questionnaire in relation to your experiences and behaviour at work.

Why have I been chosen?

You have been invited to take part in the study because your manager or a person you report to the NHS is happy for you to complete a questionnaire evaluating their behaviour at work in terms of their change leadership and emotional intelligence.

Do I have to take part?

The decision to take part is entirely voluntary, if you do not wish to take part you do not have to. If you agree to take part and then, during the course of the project you change your mind, you can withdraw at any time by contacting me on 01482 464767, email S.Mukhuty@hull.ac.uk.

What do I have to do?

If you are happy to take part in the project, we would like you to complete the questionnaire enclosed and return it in the large FREEPOST envelope provided. We would also like you to sign the consent sheet and return it along with the completed questionnaire. Your contact details will be held on a project database, separately from coded responses for the duration of the study i.e. until December 2007.

Will my taking part in this study be kept confidential?

The responses you make will be treated in the strictest confidence, no one but the research team (myself and my supervisor Professor Steve Armstrong) will have access to the data. The information you provide will not be made public in any way that could reveal your identity to a third party. All answers you provide will be coded and anonymised.

What will happen to the results of the research study?

Aggregated results will be used for research purposes of my PhD thesis and may be reported in scientific and academic journals and during conference proceedings. It is hoped to identify and provide an insight for training and development in the NHS.

Who is organising and funding the study?

The study is being carried out for my PhD study and is being funded by the University of Hull.

Contact details

If you have any queries, or would like any further information, please contact me on 01482 464767, or email: S.Mukhuty@hull.ac.uk.

Yours faithfully

Sumona Mukhuty
PhD Researcher, Graduate Teaching Assistant

Encs.

APPENDIX 5
Consent Form
For Leaders participating in the Survey



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Consent to Participate in Research Project - Questionnaire

Study Number:

Centre Number:

Title: Change Leadership and Emotional Intelligence in the NHS

Name of Researcher: Ms. Sumona Mukhuty

Name of Participant:.....

I understand the purpose of the above PhD research is to:**Please initial boxes**

- Examine the extent to which change leadership and emotional intelligence is interlinked in staff working within the changing environment in the NHS and analyse implications of the above results, which can benefit appraisal, training, development, recruitment and selection in the NHS.
- I confirm that I have read and understand the information sheet dated 15.3.2006 (version 1.1) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

And I understand that:.....**Please initial boxes**

- Involvement in the research is entirely voluntary. I am free to withdraw my consent at any time during the study without giving any reason; in which event my participation in the research study will immediately cease and any information obtained from me will not be used.
- Upon receipt, my questionnaire will be coded and my name and contact address kept separately from it.
- I will remain fully anonymous and any information I provide will not be made public in any form that could reveal my identity to an outside party.
- Aggregated results will be used for research purposes and may be reported in scientific and academic journals and in conference proceedings.
- I agree to take part in the above study.

Participant's Signature:..... Date:.....

Researcher's Signature:..... Date:.....

*** If you would like to receive feedback on the Emotional Intelligence questionnaire you complete, please ensure that you tick the appropriate box at the end of the questionnaire.**

APPENDIX 6

Consent Form

For Leaders participating in the Face-to-Face
Interviews



THE UNIVERSITY OF HULL



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Consent to Participate in Research Project – Face to face Interview

Study Number:

Centre Number:

Title: Change Leadership and Emotional Intelligence in the NHS

Name of Researcher: Ms. Sumona Mukhuty

Name of Participant:.....

I understand the purpose of the above research project is to:..... **Please initial boxes**

- Examine the extent to which change leadership and emotional intelligence is interlinked in staff working within the changing environment in the NHS and analyse implications of the above results, which can benefit appraisal, training, development, recruitment and selection in the NHS.
- I confirm that I have read and understand the information sheet dated 15.3.2006 (version 1.2) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I also understand that the interview will be about my opinion:

- on the changes within NHS
- on the role of change leadership and emotional intelligence in the NHS.

And I understand that:

- Involvement in the research is entirely voluntary. I am free to withdraw my consent at any time during the study without giving any reason; in which event my participation in the research study will immediately cease and any information obtained from me will not be used.
- Tapes from the research interview will be destroyed immediately after the data has been transcribed. I will not be identified in the taped transcriptions.
- I will remain fully anonymous and any information I provide will not be made public in any form that could reveal my identity to an outside party.
- Aggregated results will be used for research purposes and may be reported in scientific and academic journals and in conference proceedings.
- I agree to take part in the above study.

Participant's Signature:..... Date:.....

Researcher's Signature:..... Date:.....

Contact details: Please complete clearly:

Address:.....

.

.....
Postcode:.....

Email:.....

Tel:.....

APPENDIX 7

Consent Form

For Leaders –

Requesting their Consent to Contact their
Reporting-Staff to Participate in the Survey and
Asking Them to Nominate Reporting-Staff Who
May be Contacted



THE UNIVERSITY OF HULL



**HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY
Consent for My Reporting Staff Participate in Research Project - Questionnaire**

Study Number:

Centre Number:

Title: Change Leadership and Emotional Intelligence in the NHS

Name of Researcher: Ms. Sumona Mukhuty

Thank you for completing the Questionnaire. In order to ensure successful completion of the project, we would like to obtain the perceptions of staff reporting to you, in addition to yours. Please sign this form as well and return this with your completed questionnaire, if you are happy for us to contact 3-5 members of staff reporting to you.

(If you do not want the above to happen, then, PLEASE STILL SEND IN YOUR COMPLETED QUESTIONNAIRE.)

I understand the purpose of the above research project is to:..... **Please initial boxes**

- Examine the extent to which change leadership and emotional intelligence is interlinked in staff working within the changing environment in the NHS and analyse implications of the above results, which can benefit appraisal, training, development, recruitment and selection in the NHS.
- I confirm that I have read and understand the information sheet dated 15.3.2006 (version 1.3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that:

- Three to five members of staff reporting to me will be requested to complete a mirror image of the change leadership and emotional intelligence questionnaires that I will have/have completed.
- My staff will report according to their *perceptions*, relating to me and all replies from reporting staff will be anonymous, and neither will I nor will they be identifiable.

And I understand that:

- Involvement in the research is entirely voluntary. I am free to withdraw my consent at any time during the study without giving any reason; in which event my participation in the research study will immediately cease and any information obtained from me will not be used.
- Tapes from the research interview will be destroyed immediately after the data has been transcribed. I will not be identified in the taped transcriptions.
- My staff and I will remain fully anonymous and any information they/I provide will not be made public in any form that could reveal their/my identity to an outside party.
- Aggregated results will be used for research purposes and may be reported in scientific and academic journals and in conference proceedings.
- I agree to take part in the above study.

Signature:..... Date:.....

Contact details: Please complete clearly:

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

If you have any preferences on who we contact, please indicate their names and details (at least 3 staff members) below and we will only contact these members of staff to complete the change leadership and emotional intelligence questionnaires, in relation to you:

1.

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

2.

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

3.

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

4.

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

5.

Name: Tel:.....

Address:.....

..... Postcode:.....

Email:.....

APPENDIX 8

Consent Form

For Followers/Reporting-Staff Participating in the
Survey



THE UNIVERSITY OF HULL



HULL UNIVERSITY BUSINESS SCHOOL - PHD STUDY

Consent to Participate in Research Project - Questionnaire - Reporting Staff

Study Number:
Centre Number:

Title: Change Leadership and Emotional Intelligence in the NHS

Name of Researcher: Ms. Sumona Mukhuty

Name of Participant:.....

I understand the purpose of the above PhD research is to:**Please initial boxes**

- Examine the extent to which change leadership and emotional intelligence is interlinked in staff working within the changing environment in the NHS and analyse implications of the above results, which can benefit appraisal, training, development, recruitment and selection in the NHS.
- I confirm that I have read and understand the information sheet dated 15.3.2006 (version 1.4) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

And I understand that:

- Involvement in the research is entirely voluntary. I am free to withdraw my consent at any time during the study without giving any reason; in which event my participation in the research study will immediately cease and any information obtained from me will not be used.
- I will remain fully anonymous and any information I provide will not be disclosed to my leader/manager or made public in any form that could reveal my identity to an outside party.
- Upon receipt, my questionnaire will be coded and my name and contact address kept separately from it.
- Aggregated results will be used for research purposes and may be reported in scientific and academic journals and in conference proceedings.
- I agree to take part in the above study.

Participant's Signature:..... Date:.....

Researcher's Signature:..... Date:.....

APPENDIX 9

Interview Schedule for Face-to-Face Qualitative Interviews with Leaders

Objective 1

To find out what kind of change is occurring and what kind of change you are involved in, within the NHS.

1. What kind of change processes are you/or your department currently involved with?

2. How would you describe these changes? [Would you describe these changes as planned and deliberate (or spontaneous/emergent), transformational, continuous...?]

3. (a) As a change agent (as well as leader), what kind of activities do you engage in, in order to achieve these changes?

OR

- (b) What kind of activities would you say the change agents are appearing to be engaging in to achieve these changes?

Objective 2

To find out the reaction of NHS members to the change processes. Are they embracing or resisting the changes.

1. What is the general reaction to these changes? (Embracing/resisting, both on an intellectual and emotional level? Do members find it a challenge, do they support the change, try to prevent it)?
2. Would you be able to give some examples (if possible even anecdotal) of how people have reacted to certain change ideas/initiatives in the recent past?

Objective 3

To what extent are change agents employing transformational leadership behaviour/skills in implementing and dealing with these changes.

(Introduce concept of Transformational Leadership - Idealised Influence, Intellectual Stimulation, Inspirational Motivation, and Individualised Consideration).

1. What kind of change processes are you currently involved with?

2. From a leadership perspective, how would you describe yourself going about incorporating and implementing the change programmes?

3. Would you say, mentor-like behaviours or trying to behave as role models would help achieve these changes successfully? Any examples you could talk about?

4. What are your views on employee involvement and their usefulness in implementing change programmes?

5. Do you encourage or are you encouraged in providing the greater picture? How far do you feel this helps in soliciting support and commitment towards the change programmes?

6. What is your take on providing challenge to employees, with a view to achieving change processes? Any examples/ anecdotes?

7. It is said that providing individual attention to staff helps soliciting their co-operation in change initiatives. What is your view on this reflecting on the NHS?

8. What do you feel about the traditional practice of exchanging pre-agreed rewards between members and their superiors? How successful do you consider this practice in achieving change processes in the NHS.

9. Are you anticipating any future major changes? Would you like to explain a bit about these upcoming changes?

GENERAL QUESTIONS

1. How long have you worked in the NHS? Have you worked in any other sector?
2. What is your current position? How long have you worked in your current position?
3. Is there any written information about the change targets, change programmes and so on, which you could give me?
4. Could you suggest/recommend any of your colleagues or acquaintances within the NHS, who I could speak to?
5. Would you like to participate in the survey phase of my research?
6. Are there any questions, that you would like to ask me or is there anything you would like to add?

APPENDIX 10

Cohen's Guidelines to Interpret Effect Size

COHEN'S GUIDELINES TO INTERPRET EFFECT SIZE

COHEN'S GUIDELINES TO INTERPRET EFFECT SIZE	
Numeric Value of Effect Size	Relative Size of Effect
≥ -0.15 to < 0.15	negligible effect
≥ 0.15 to < 0.4	small effect
≥ 0.4 to < 0.75	medium effect
≥ 1.10 to < 1.45	very large effect
> 1.45	huge effect

(Thalheimer & Cook, 2002 as adapted from Cohen, 1992)

APPENDIX 11

Tests of Homogeneity of Samples from Different NHS Trusts – Phase 1 Leader Self-Ratings

Tests of Homogeneity of Samples obtained from Different NHS Trusts: Leader Self-Ratings

PHASE 1: TESTING HOMOGENEITY FOR LEADERS' SELF-RATINGS

The results of homogeneity tests are presented below. Each of the following tables indicate the mean and standard deviation scores for data obtained from each trust on each major construct. The F-ratio and significance level for each set of ANOVA has also been indicated below. Results show that no significant difference was found between any of the trusts on any of the variables. This confirmed that the data was homogeneous and it was appropriate to combine the samples obtained from the different trusts

Table A1 shows that there was no significant difference in EI scores (as measured by the SUEIT) across the different NHS trusts ($F_{6, 297} = 1.088, p > 0.05$).

Table A1: ANOVA for the Swinburne University Emotional Intelligence Test

ANOVA for the Swinburne University Emotional Intelligence Test					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	117	224.299	17.986	1.088	0.37 (not significant)
ACT2	71	226.225	19.919		
PCT1	37	229.487	15.841		
PCT2	19	231.947	12.804		
PCT3	11	227.09	15.559		
PCT4	18	225	18.759		
MHT	31	230.774	16.77		

Table A2 shows that there was no significant difference in EI scores (as measured by the EIQ) across the different NHS trusts ($F_{6, 302} = 0.423, p > 0.05$).

Table A2: ANOVA for the Emotional Intelligence Questionnaire

ANOVA for the Emotional Intelligence Questionnaire					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	118	263.585	15.636	.423	0.863 (not significant)
ACT2	73	262.452	17.623		
PCT1	37	265	14.31		
PCT2	19	266.842	12.424		
PCT3	11	260.273	16.255		
PCT4	18	261.167	14.694		
MHT	33	262.789	10.825		

Table A3 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 297} = 1.208, p > 0.05$).

Table A3: ANOVA for Transformational Leadership

ANOVA for Transformational Leadership					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	117	3.049	0.414	1.208	0.302 (not significant)
ACT2	73	3.004	0.393		
PCT1	36	3.163	0.442		
PCT2	19	3.19	0.393		
PCT3	11	3.04	0.362		
PCT4	17	3.149	0.348		
MHT	31	3.134	0.401		

Table A4 shows that there was no significant difference in TrL scores across the different NHS trusts ($F_{6, 298} = 0.966, p > 0.05$).

Table: A4: ANOVA for Transactional Leadership

ANOVA for Transactional Leadership					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	117	2.002	0.431	0.966	0.448 (not significant)
ACT2	72	1.941	0.421		
PCT1	36	2.057	0.428		
PCT2	19	1.873	0.31		
PCT3	11	2.047	0.215		
PCT4	17	1.995	0.421		
MHT	33	1.882	0.334		

Table A5 shows that there was no significant difference in LFL scores across the different NHS trusts ($F_{6, 302} = 1.51, p > 0.05$).

Table A5 – ANOVA for Laissez-Faire Leadership

ANOVA for Laissez Faire Leadership					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	118	0.489	0.427	1.51	0.174 (not significant)
ACT2	73	0.536	0.524		
PCT1	37	0.419	0.437		
PCT2	19	0.632	0.536		
PCT3	11	0.432	0.42		
PCT4	18	0.764	0.539		
MHT	33	0.599	0.555		

Table A6 shows that there was no significant difference in Outcomes of Leadership scores across the different NHS trusts ($F_{6, 279} = 0.705, p > 0.05$).

Table A6: ANOVA for Outcomes of Leadership

ANOVA for Outcomes of Leadership					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	110	3.083	0.477	0.705	0.646 (not significant)
ACT2	65	3.016	0.428		
PCT1	36	3.164	0.485		
PCT2	19	3.195	0.415		
PCT3	11	3.018	0.345		
PCT4	15	3.074	0.439		
MHT	30	3.113	0.358		

Table A7 shows that there was no significant difference in social desirability scores across the different NHS trusts ($F_{6, 293} = 0.568, p > 0.05$).

Table A7: ANOVA for the Marlowe-Crowne Social Desirability Scale

ANOVA for the Marlowe-Crowne Social Desirability Scale					
NHS Trusts	n	Mean	Standard Deviation	F- Ratio	Significance
ACT1	116	19.19	5.205	0.568	0.756 (not significant)
ACT2	72	19	5.01		
PCT1	35	19.54	4.667		
PCT2	19	20.37	5.036		
PCT3	11	20.73	6.724		
PCT4	17	17.94	3.491		
MHT	30	18.83	5.736		

APPENDIX 12

Tests of Homogeneity of Samples from Different NHS Trusts – Phase 2 Follower-Ratings of Leaders

Tests of Homogeneity of Samples obtained from Different NHS Trusts: Follower-Ratings of Leaders

PHASE 2: TESTING HOMOGENEITY FOR FOLLOWER-RATINGS OF LEADERS

The ANOVA test results are indicated below, including the mean, standard deviation, *F*-ratio and significance level. All the ANOVA test results for all the variables were non-significant, thereby confirming that the data was homogeneous and it was appropriate to combine the samples obtained from the different trusts.

Table A8 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 0.5, p > 0.05$).

Table A8: ANOVA for the Swinburne University Emotional Intelligence Test

ANOVA for the Swinburne University Emotional Intelligence Test					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	29	223.04	21.83	0.5	0.81 (not significant)
ACT2	27	215.17	33.76		
PCT1	7	225.91	15.36		
PCT2	5	217.33	18.32		
PCT3	4	227.13	10.62		
PCT4	4	216.5	40.48		
MHT	9	228.63	16.24		

Table A9 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 0.21, p > 0.05$).

Table A9: ANOVA for the Emotional Intelligence Questionnaire

ANOVA for the Emotional Intelligence Questionnaire					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	33	264.36	28.96	0.21	0.97 (not significant)
ACT2	31	264.51	23.37		
PCT1	8	263.92	19.17		
PCT2	7	264.43	19.8		
PCT3	4	267.5	7.94		
PCT4	4	249.75	51.14		
MHT	10	264.14	25.7		

Table A10 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 0.67, p > 0.05$).

Table A10: ANOVA for Transformational Leadership

ANOVA for Transformational Leadership					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	33	2.62	0.61	0.67	0.67 (not significant)
ACT2	31	2.82	0.47		
PCT1	8	2.74	0.57		
PCT2	7	2.94	0.42		
PCT3	4	2.75	0.4		
PCT4	4	2.4	1.39		
MHT	10	2.63	0.71		

Table A11 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 1.05, p > 0.05$).

Table A11: ANOVA for Transactional Leadership

ANOVA for Transactional Leadership					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	33	2	0.42	1.05	0.4 (not significant)
ACT2	31	1.9	0.25		
PCT1	8	1.87	0.29		
PCT2	7	1.78	0.3		
PCT3	4	1.71	0.37		
PCT4	4	1.83	0.48		
MHT	10	1.76	0.47		

Table A12 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 0.89, p > 0.05$).

Table A12: ANOVA for Laissez-Faire Leadership

ANOVA for Laissez-Faire Leadership					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	33	0.71	0.79	0.89	0.5 (not significant)
ACT2	31	0.45	0.45		
PCT1	8	0.64	0.43		
PCT2	7	0.66	0.62		
PCT3	4	0.34	0.41		
PCT4	4	0.88	0.72		
MHT	10	0.86	0.84		

Table A13 shows that there was no significant difference in TL scores across the different NHS trusts ($F_{6, 90} = 0.7, p > 0.05$).

Table A13: ANOVA for Outcomes of Leadership

ANOVA for Outcomes of Leadership					
NHS Trusts	n	Mean	Standard Deviation	F-Ratio	Significance
ACT1	33	2.14	0.52	0.7	0.65 (not significant)
ACT2	31	2.2	0.49		
PCT1	8	2.24	0.47		
PCT2	7	2.5	0.55		
PCT3	4	2.28	0.45		
PCT4	4	1.82	1		
MHT	10	2.13	0.84		

APPENDIX 13

Tests of Normality – Phase 1

Histograms and Q-Q Plots for Leader Self-Ratings

GRAPHS ASSESSING NORMALITY – PHASE 1

LEADER SELF-RATINGS

All histograms and q-q plots below show that the distributions for all variables were reasonably normal.

Swinburne University Emotional Intelligence Test

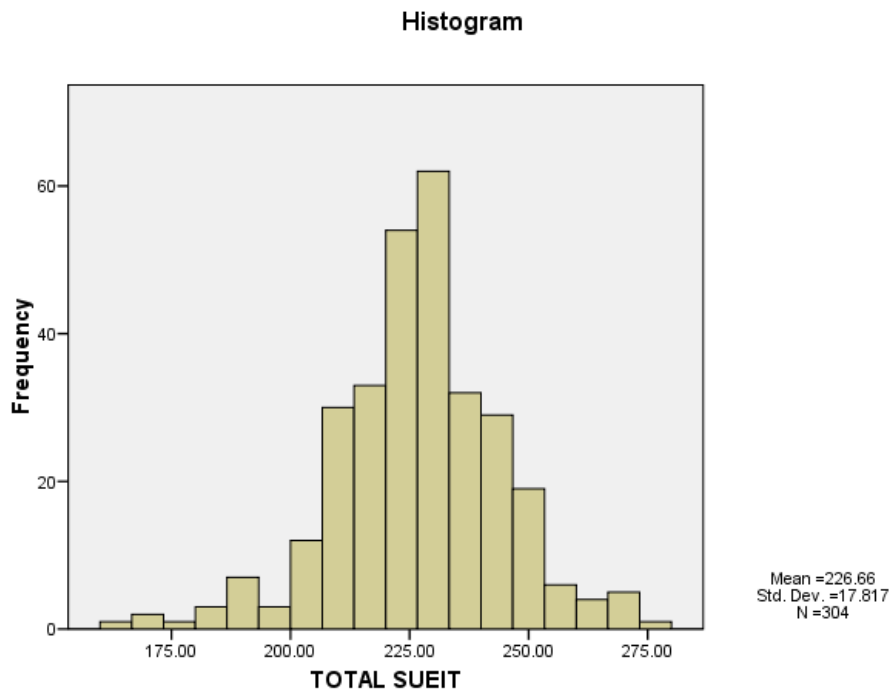
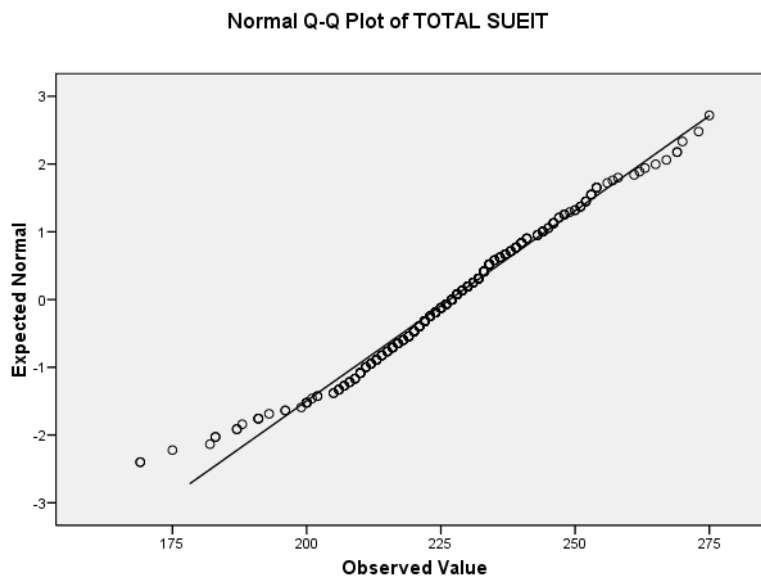
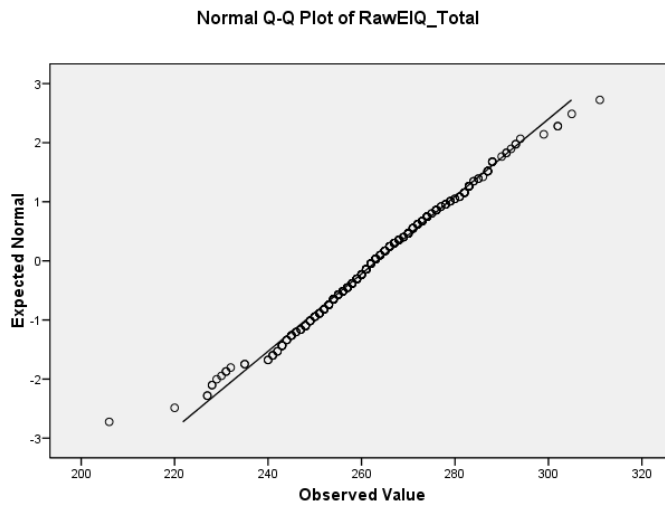
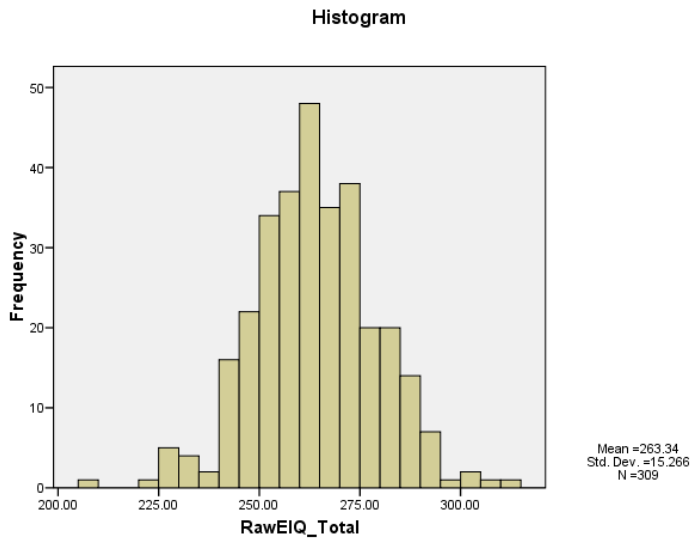


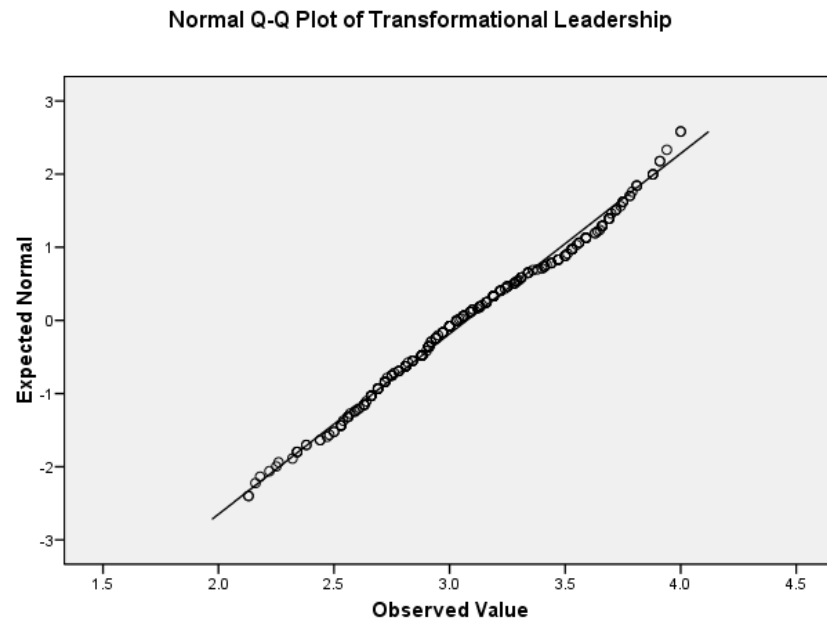
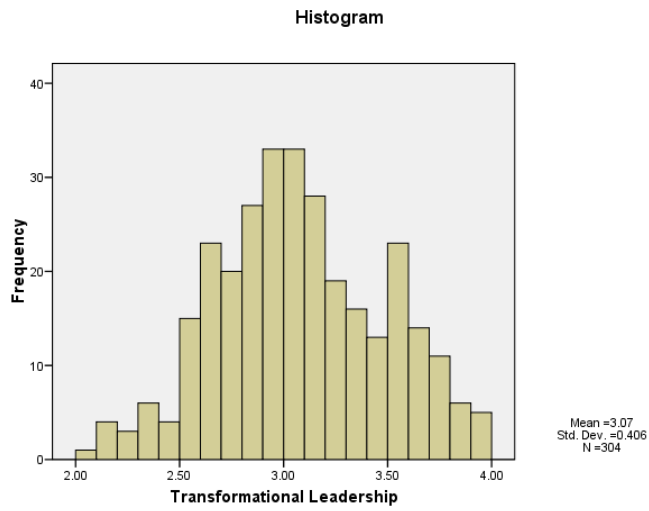
Fig A2:



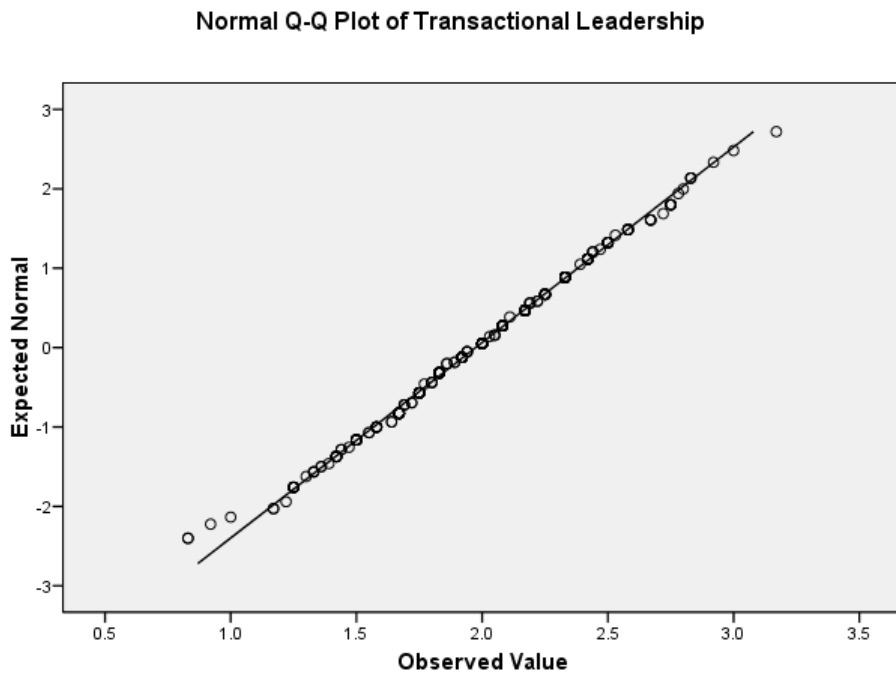
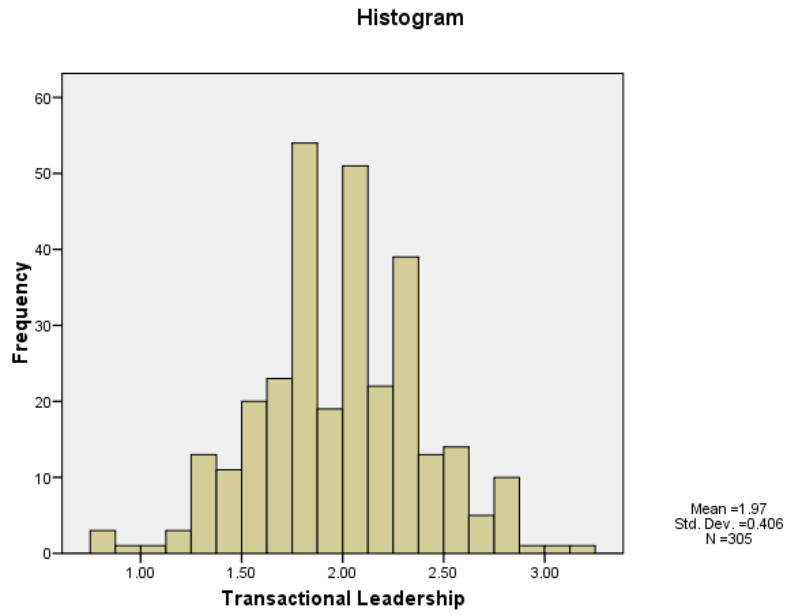
Emotional Intelligence Questionnaire



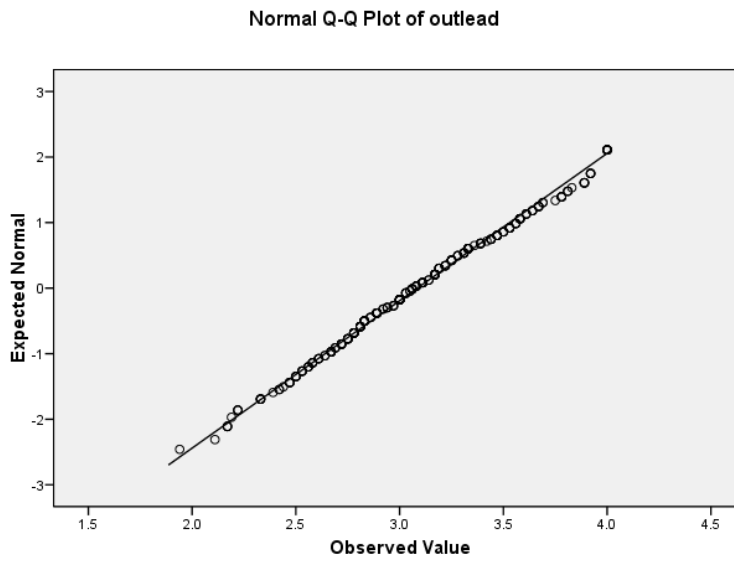
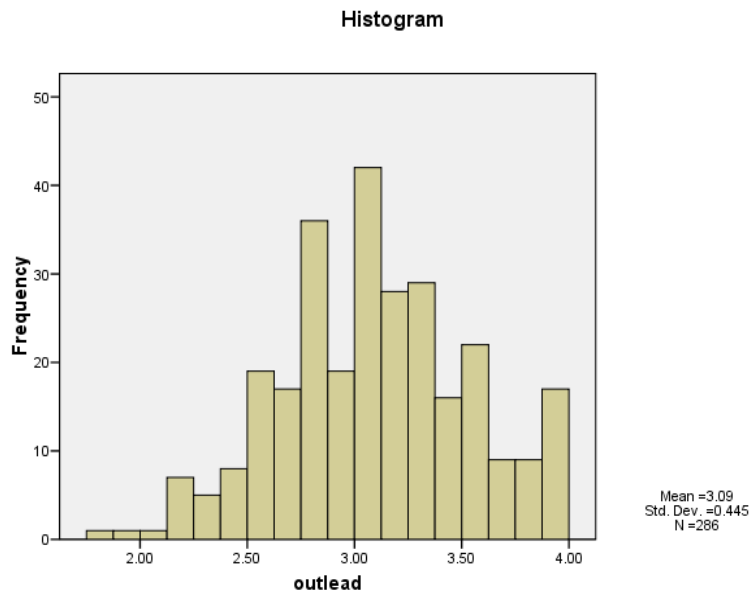
Transformational Leadership



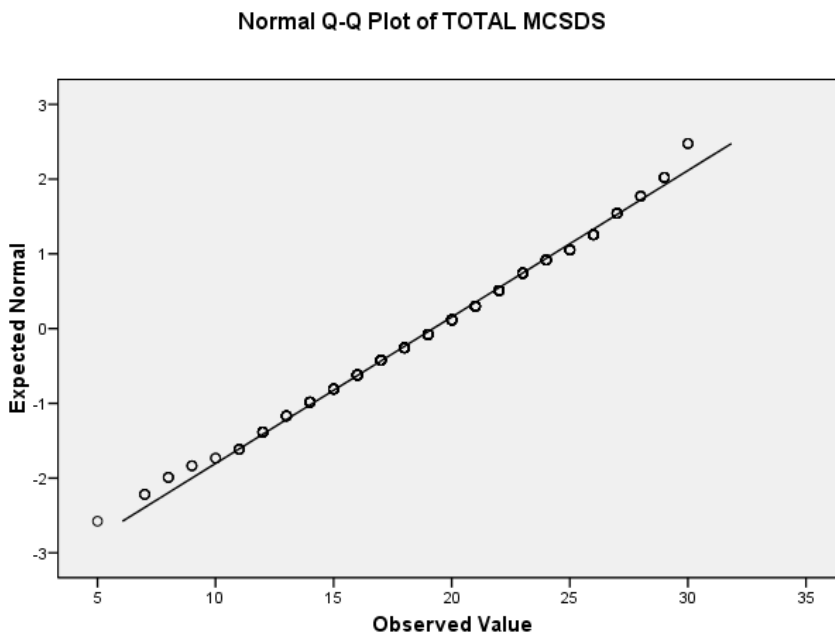
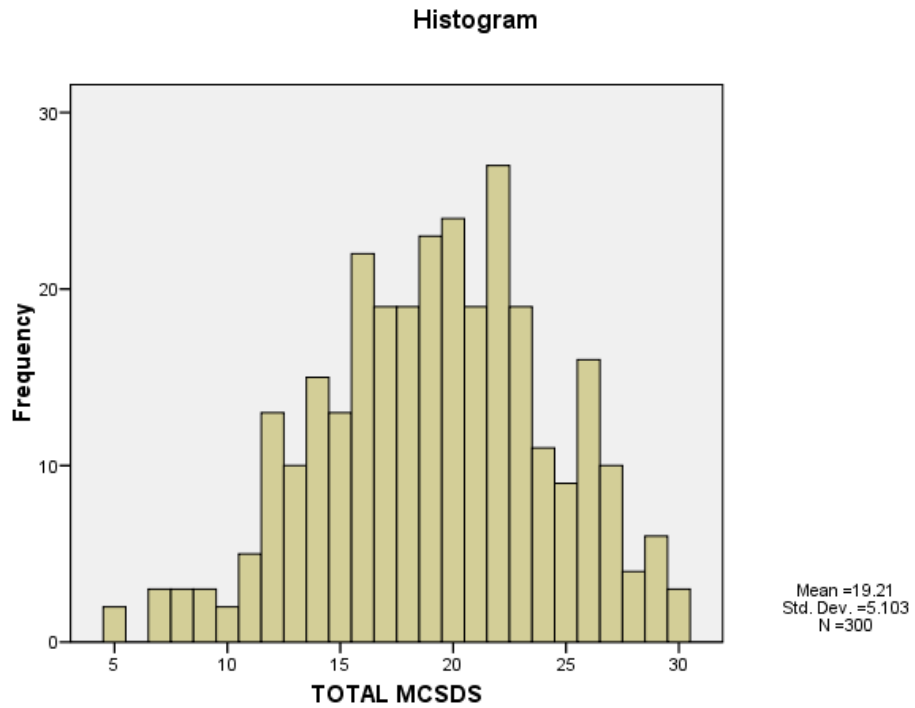
Transactional Leadership



Outcomes of Leadership



Marlowe Crowne Social Desirability Scale



APPENDIX 14

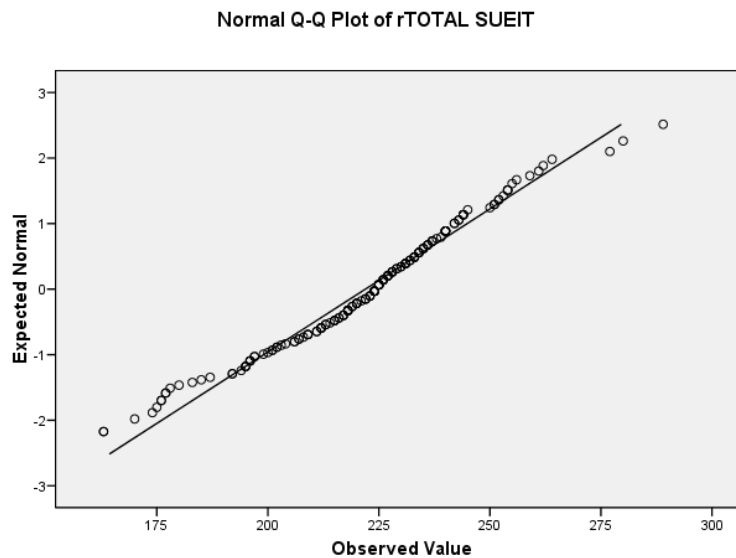
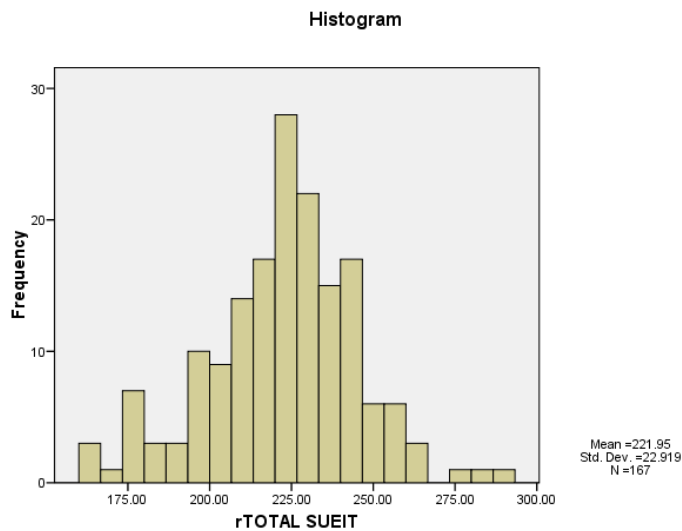
Tests of Normality – Phase 2 Histograms and Q-Q Plots for Follower-Ratings of Leaders

GRAPHS ASSESSING NORMALITY – PHASE 2

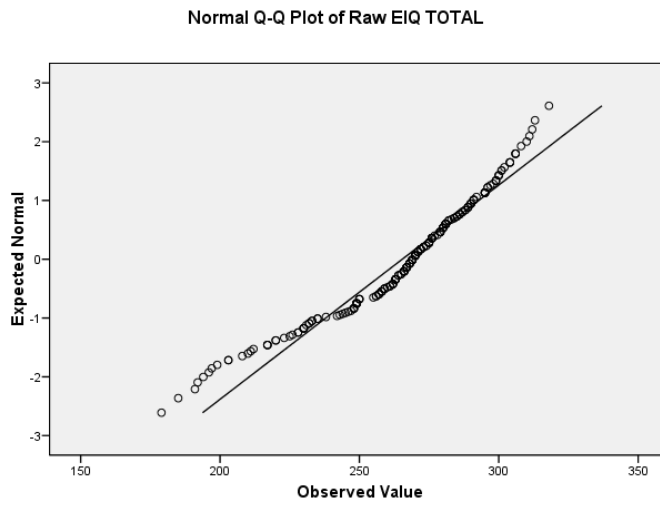
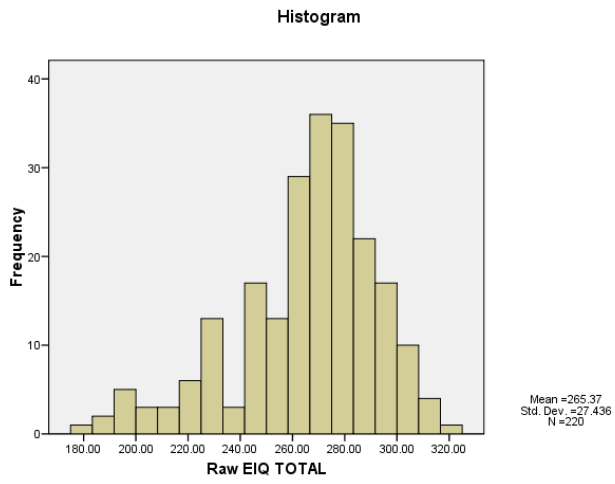
FOLLOWER-RATINGS OF THEIR LEADERS

All histograms and q-q plots (barring outcomes of leadership) below show that the distributions for all variables were reasonably normal.

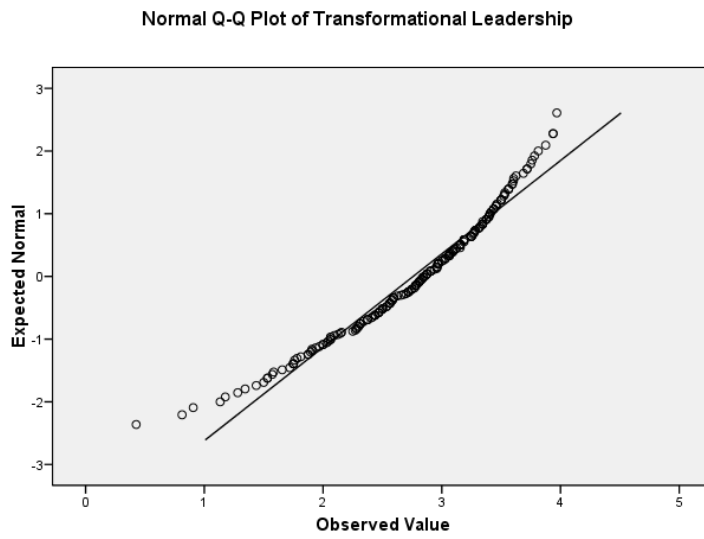
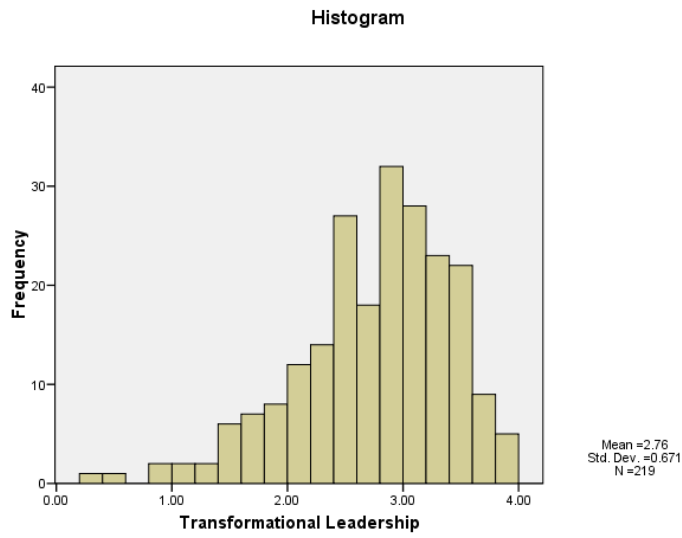
Swinburne University Emotional Intelligence Test



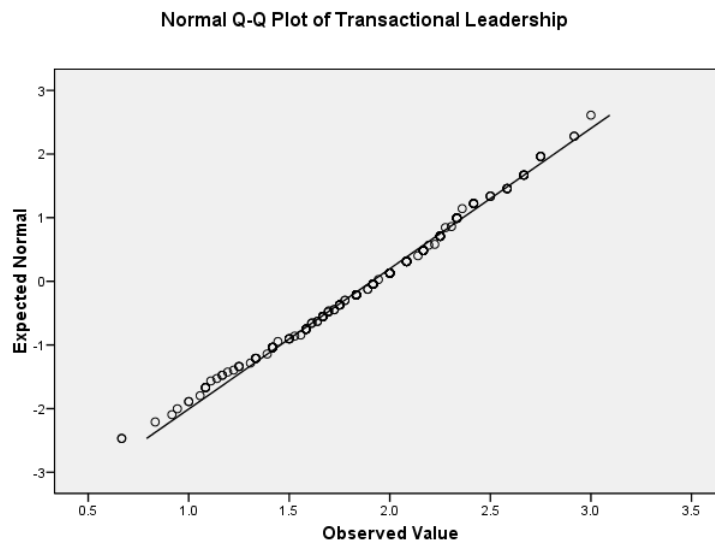
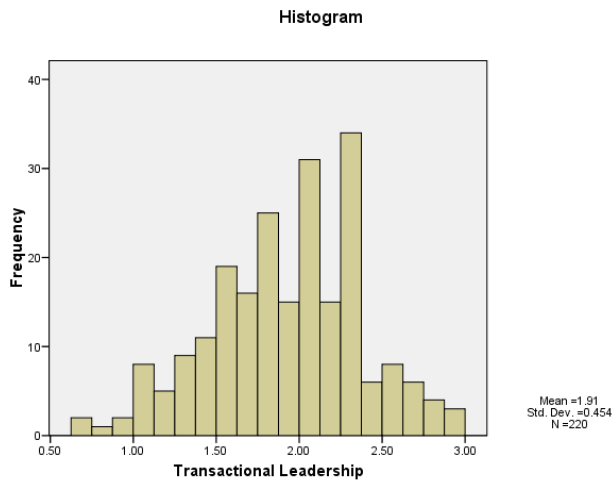
Emotional Intelligence Questionnaire



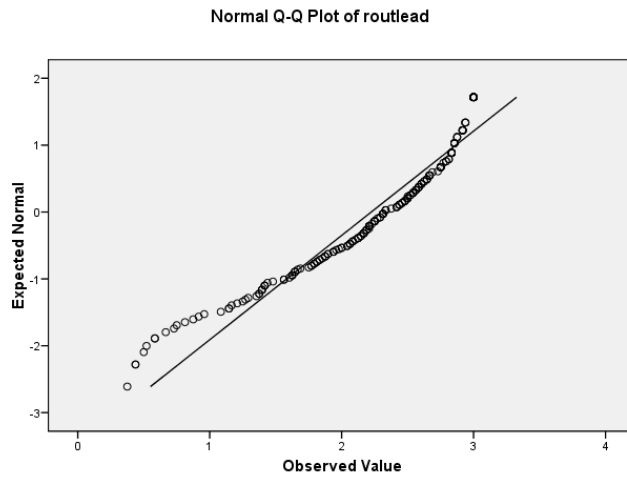
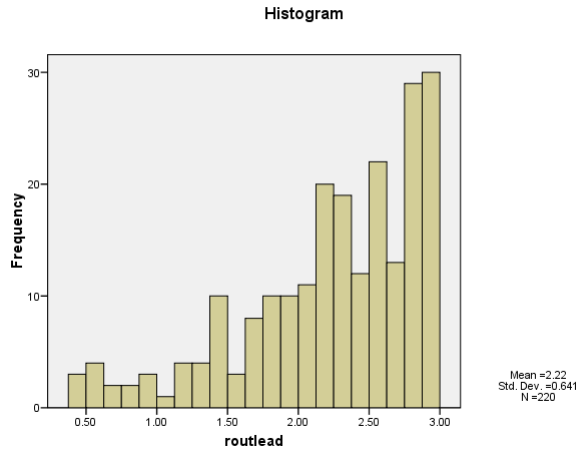
Transformational Leadership



Transactional Leadership



Outcomes of Leadership



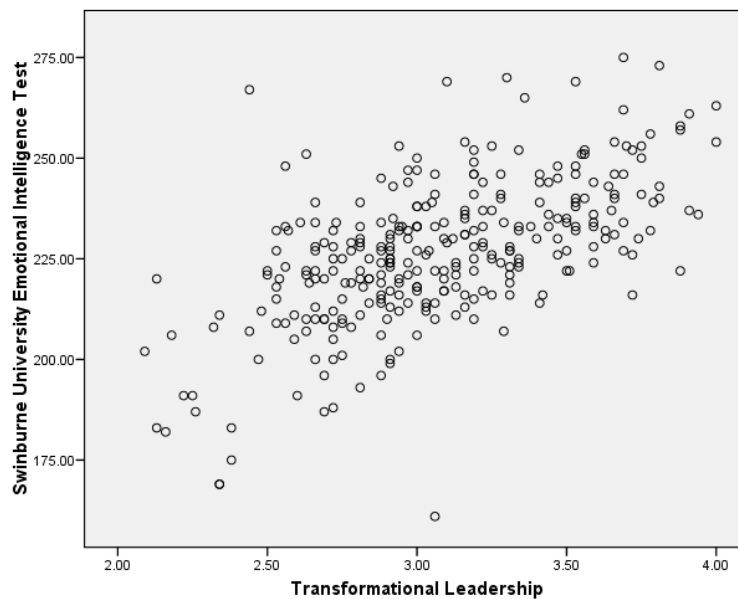
APPENDIX 15
ASSUMPTIONS OF LINEARITY AND
HOMOSCEDASTICITY

ASSUMPTIONS OF LINEARITY AND HOMOSCEDASTICITY

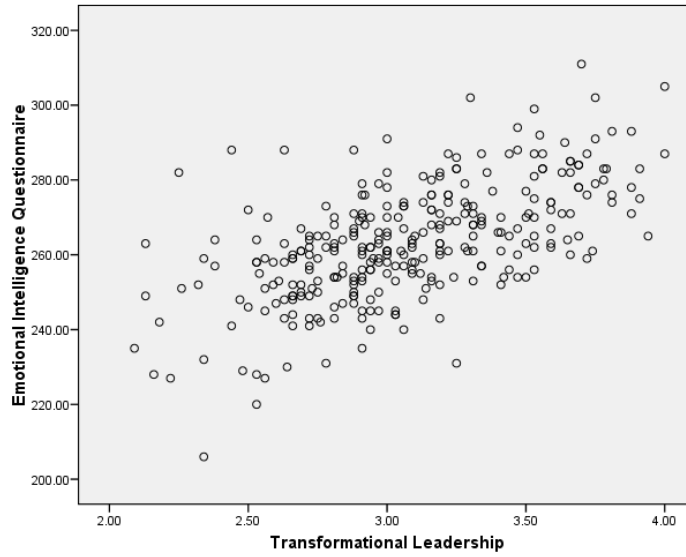
The assumption of linearity entails the relationship between two variables to display a linear pattern. If a scatterplot of the scores is examined, it should display a rough straight line, rather than a curve (Pallant, 2007). The following scatterplots show that all the correlations are roughly linear and the assumption of linearity has not been violated.

Homoscedasticity refers to the variability in the scores and indicates that variability in the values recorded on the X-axis should be similar at all values recorded on the Y-axis. This is visible through a fairly even cigar shape along the length of the scatterplot (Pallant, 2007). Fairly even cigar shapes can be discerned from the scatterplots below. Therefore, the assumption of homoscedasticity has not been violated.

SUEIT AND TL



EQ AND TL



APPENDIX 16

ASSUMPTION OF MULTICOLLINEARTY

ASSUMPTION OF MULTICOLLINEARTY

Multicollinearity entails the association among the independent variables. If the independent variables are highly correlated ($r = 0.9$ and above) then multicollinearity exists. The independent variables in the regression analyses were gender, MCSDS, SUEIT and EIQ. As shown in the table below (A14), none of the independent variables displayed multicollinearity with any other independent variable.

Table A14: Multicollinearity Assessment – Correlation between Independent Variables

MULTICOLLINEARITY ASSESSMENT - CORRELATION BETWEEN INDEPENDENT VARIABLES					
	Gender	Marlowe Crowne Social Desirability Scale	Emotional Intelligence Questionnaire	Swinburne University Emotional Intelligence Test	Proactive Personality Scale
Gender	1 n = 309	0.157** n = 300	0.002 n = 309	0.262*** n = 304	0.008 n = 304
Marlowe Crowne Social Desirability Scale	0.157** n = 300	1 n = 300	0.423*** n = 300	0.315*** n = 296	0.092 n = 297
Swinburne University Emotional Intelligence Test	0.262*** n = 304	0.315*** n = 296	0.615*** n = 304	1 n = 304	0.353*** n = 300
Emotional Intelligence Questionnaire	0.002 n = 309	0.423*** n = 300	1 n = 309	0.615*** n = 304	0.304*** n = 304
* p < 0.05, two tailed					
** p < 0.01, two tailed					
*** p < 0.001, two tailed					

APPENDIX 17

MANOVA ASSUMPTIONS

MANOVA ASSUMPTIONS - TRANSFORMATIONAL LEADERSHIP

A17.1 Sample Size – TL

The number of factor-wise dependent variables is taken into account here. In each combination cell, the number of cases needs to be more than the number of dependent variables being investigated. Pallant (2007) points out that this requirement is an absolute minimum. With a larger sample size, some other assumptions (e.g. normality) may be overlooked, but not sample size. There were 5 dependent factors/scales studied here. The independent variable is gender and has two levels (male and female), hence the total number of cells in this analysis is (2 x 5) 10. In the final MANOVA, all the cells contained more than 10 cases with 96 males and 203 females for each variable and a total of 299 cases. Therefore, the sample size requirement was satisfied.

A17.2 Normality and Outliers - TL

Normality of all the variables in their aggregated forms have already been examined in appendices 13 and 14. However, unlike ANOVAs or *t*-tests, a MANOVA does not assume normal distribution for each dependent variable within the group (Field, 2005); rather, it requires the demonstration of multivariate normal distribution, in addition to univariate normal distributions. Multivariate normal distribution entails a normal distribution of the means of the different dependent variables and all linear combinations between them. According to Tabachnik and Fidell (2007), in large samples, “the central limit theorem suggests that the sampling distribution of means approaches normality even when raw scores do not” (Tabachnik & Fidell, 2007). They also indicate that as long as each cell has a minimum of 20 cases, the MANOVA results will be robust.

In this case, the MANOVA sample size is large with 299 cases after discounting cases with missing data and outliers. Also there are more than 10 cases in each cell. Therefore, it may be argued that this set of data meets the requisite criteria of multivariate normality.

Multivariate normality and outliers can also be statistically checked by calculating Mahalanobis distances (Pallant, 2007). This has been done in the following section.

A17.3 Outliers - TL

MANOVA is highly sensitive to outliers and can cause a Type I or Type II error unbeknown to the researcher (Tabachnik & Fidell, 2007). Therefore, it is important to check for univariate and multivariate outliers before conducting a MANOVA.

A17.3.1 Checking Univariate Outliers

Univariate outliers on all the aggregate scales have already been identified and addressed in appendix 13. Univariate outliers were checked for on each factor scale of EIQ, SUEIT and MLQ. The cases that were identified by SPSS were double checked against the primary data in the survey questionnaires. Out of the 124 cases that SPSS identified as containing outliers, only 5 cases had a high level of missing data. The rest of the data was accurate and complete. Closer inspection revealed that most participants had employed the full range of the likert scales in responding to the survey. This is in line with what participants are encouraged to do to yield more meaningful results. Therefore, only the 5 cases with a larger amount of missing data have been excluded from the MANOVA and the rest have been retained in their true form.

A17.3.2 Checking Multivariate Outliers - TL

Multivariate normality was ascertained by calculating Mahalanobis distances. This measures the distance of a particular case from the centroid of the other cases. The centroid denotes the mean of all the variables (Pallant, 2007; Tabachnick & Fidell, 2007). To identify the cases that are outliers, the Mahalanobis distance value was compared against the chi square critical value table (Tabachnik & Fidell, 2007 – adapted from Pearson & Hartley¹, 1958). If the Mahalanobis distance value is higher than the critical value, then the case is deemed to be an outlier. However, MANOVA is resilient to a few outliers if the scores are not too extreme and the sample size is reasonable.

All 5 TL variables were taken into account and the maximum Mahalanobis distance was 68.456. This number was then compared to the critical value obtained from the chi square table. To determine this, the number of dependent values (5) was used as the degrees of freedom, with an alpha value of 0.001. The critical value obtained was 20.52. The maximum Mahalanobis distance (24.211) was higher than the critical value (20.52) indicating the presence of multivariate outliers. In this study, only two cases had a higher Mahalanobis distance value than the critical value. Given the large sample size, these outliers were excluded from the analysis instead of being transformed, to yield a more consistent and robust data-set (Tabachnik & Fidell, 2007).

SPSS did not generate a Mahalanobis score for three further cases. This is deemed to be due to missing data on some of the variables, therefore, these cases were also excluded.

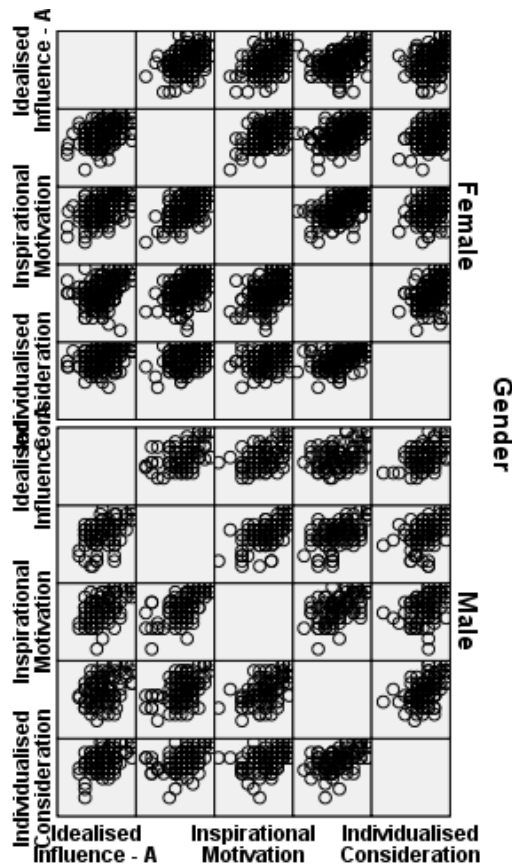
Tabachnik and Fidell (2007) point out that some multivariate outliers may hide behind other multivariate outliers and only surface after removal of the first round of outliers. Therefore, it is recommended to re-run the Mahalanobis test for multivariate outliers to check for masked outliers. After removing the initial set of outliers identified, Mahalanobis distance was calculated for the remaining cases. This yielded a maximum Mahalanobis distance value of 20.196 against a critical value of 20.52

¹ Pearson, E.S. and Hartley, H.O. (1958) *Biometrika Tables for Statisticians – volume 1*, New York: Cambridge University Press.

with 5 degrees of freedom and alpha value of 0.001. The second time round, the maximum Mahalanobis distance value was less than the critical value, indicating there were no more multivariate outliers in the data-set.

A17.4 Linearity - TL

This assumption checks the existence of a straight-line relationship between each pair of dependent variable (Pallant, 2007). The scatterplots below show that there was no obvious violation of the assumption of linearity in the data-sets.



A17.5 Homogeneity of Regression - TL

This assumption needs to be met if a step-down analysis is conducted. This is not the case in this study, therefore homogeneity of regression has not been examined (Pallant, 2007).

A17.6 Multicollinearity and Singularity - TL

This refers to a high level of correlation between the dependent variables. MANOVA is most effective with moderate correlations. Low correlations are better treated using univariate ANOVA. Multicollinearity tends to occur when a variable score has

been obtained by combining scores on other variables. To prevent multicollinearity idealised influence – attributes and idealised influence – behaviours were included in the MANOVA but not the total value of idealised influence obtained through the sum total of idealised influence – attributes and idealised influence – behaviours. In addition the total TL score has been excluded from the MANOVA. Table A15 below, shows the moderate correlations among the TL factors. There are no low or extremely high correlations (i.e. correlations of 0.8 or 0.9) (Pallant, 2007).

Table A15 – Correlation Matrix of TL Components

		Correlations				
		Idealised Influence - A	Idealised Influence - B	Inspirational Motivation	Intellectual Stimulation	Individualised Consideration
Idealised Influence - A	Pearson Correlation	1	.444**	.499**	.427**	.408**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	299	299	299	299	299
Idealised Influence - B	Pearson Correlation	.444**	1	.581**	.491**	.428**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	299	299	299	299	299
Inspirational Motivation	Pearson Correlation	.499**	.581**	1	.539**	.441**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	299	299	299	299	299
Intellectual Stimulation	Pearson Correlation	.427**	.491**	.539**	1	.510**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	299	299	299	299	299
Individualised Consideration	Pearson Correlation	.408**	.428**	.441**	.510**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	299	299	299	299	299

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

A17.7 Homogeneity of Variance-Covariance Matrices – TL

The value of Box’s Test of Equality of Covariance Matrices helps ensure the assumption of homogeneity of variance-covariance matrices. The significance level obtained was 0.386. This was larger than 0.001 and therefore, did not violate the above assumption (Pallant, 2007).

MANOVA ASSUMPTIONS – EMOTIONAL INTELLIGENCE

EMOTIONAL INTELLIGENCE - SUEIT

A17.8 Sample Size - SUEIT

After cleansing the data of univariate and multivariate outliers, the sample size for the MANOVA of SUEIT is 296. The number of dependent variables in the EI MANOVA is 5 and independent variable is 2. Therefore each cell contains more than the requisite number of cases ($2 \times 5 = 10$), with 95 males and 201 females.

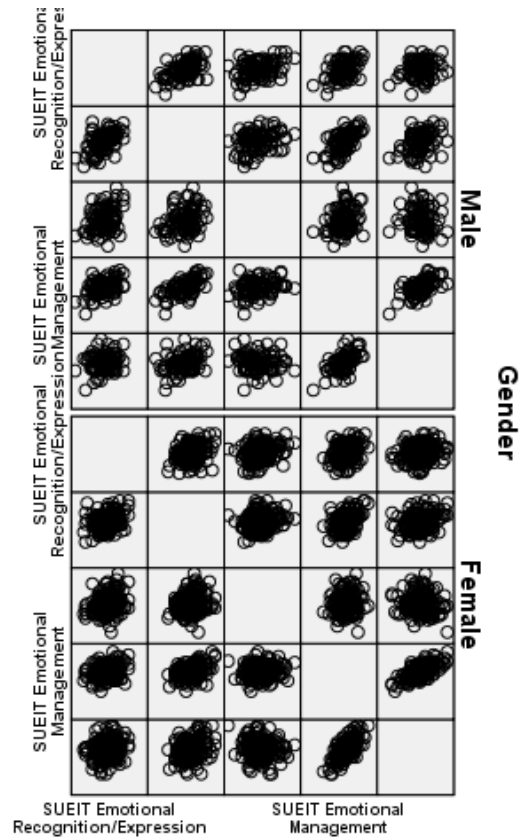
A17.9 Normality and Outliers - SUEIT

Here multivariate normality for EIQ has been reported. Univariate normality for all variables and scales have been ascertained and addressed in appendix 13. The Univariate outliers have been excluded from the MANOVA analysis and therefore not included in the check for multivariate normality.

The maximum value for Mahalanobis distance obtained is 33.155. The critical value obtained from the chi square table with 5 as the value for degrees of freedom (number of dependent variables) is 20.52. The alpha value used is 0.001 (Pallant, 2007). The Mahalanobis distance value obtained here is a lot higher than the critical value indicating the presence of multivariate outliers. On closer inspection, there were 3 multivariate outliers. SPSS did not generate a value of Mahalanobis distance for 5 more cases due to missing data. So these cases were removed and the Mahalanobis distance was recalculated. This did not reveal any further multivariate outliers. Therefore, SUEIT MANOVA was calculated with this data-set of 296 cases.

A17.10 Linearity - SUEIT

This assumption checks the existence of a straight-line relationship between each pair of dependent variable (Pallant, 2007). The scatterplots below show that there was no obvious violation of the assumption of linearity in the data-sets.



17.11 Multicollinearity and Singularity - SUEIT

The following table (A16) shows that most of the dependent variables were moderately correlated with each other. Thereby, not violating assumptions of multicollinearity and singularity.

Table A.16 – Correlation Matrix of SUEIT Components

		Correlations				
		SUEIT Emotional Recognition/Expression	SUEIT Understanding Emotions External	SUEIT Emotions Direct Cognition	SUEIT Emotional Management	SUEIT Emotional Control
SUEIT Emotional Recognition/Expression	Pearson Correlation	1	.449**	.305**	.361**	.176**
	Sig. (2-tailed)		.000	.000	.000	.002
	N	296	296	296	296	296
SUEIT Understanding Emotions External	Pearson Correlation	.449**	1	.279**	.526**	.291**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	296	296	296	296	296
SUEIT Emotions Direct Cognition	Pearson Correlation	.305**	.279**	1	.196**	-.092
	Sig. (2-tailed)	.000	.000		.001	.112
	N	296	296	296	296	296
SUEIT Emotional Management	Pearson Correlation	.361**	.526**	.196**	1	.656**
	Sig. (2-tailed)	.000	.000	.001		.000
	N	296	296	296	296	296
SUEIT Emotional Control	Pearson Correlation	.176**	.291**	-.092	.656**	1
	Sig. (2-tailed)	.002	.000	.112	.000	
	N	296	296	296	296	296

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

17.12 Homogeneity of variance-covariance matrices - SUEIT

Box’s Test of Equality of Covariance Matrices revealed a significance level of 0.043 which is larger than 0.001, therefore the assumption of homogeneity of variance-covariance matrices has not been violated.

17.13 Levene’s Test - SUEIT

The Levene’s Test of Equality of Error Variances is used to check whether the assumption of equality of variance for each variable has been violated or not. If the Levene’s test result for a variable achieves a significance level that is less than 0.05, then the assumption of equality of variance for that variable has been violated. For the SUEIT, the assumption of equality of variance was violated for three out of five variables – emotional recognition/expression, understanding emotions external and emotions direct cognition (A17).

Table A17 – Levene’s Test in SUEIT

Levene’s Test of Equality of Error Variances

	F	df 1	df 2	Sig.
SUEIT Emotional Recognition/Expression	4.196	1	294	.041
SUEIT Understanding Emotions External	9.417	1	294	.002
SUEIT Emotions Direct Cognition	11.758	1	294	.001
SUEIT Emotional Management	1.314	1	294	.253
SUEIT Emotional Control	.104	1	294	.748

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+gender

EMOTIONAL INTELLIGENCE - EIQ

A17.14 Sample Size - EIQ

After cleansing the data of univariate and multivariate outliers, the sample size for the MANOVA of EIQ is 301. The number of dependent variables in the EI MANOVA is 7 and independent variable is 2. Therefore each cell contains more than the requisite number of cases ($2 \times 7 = 14$), with 94 in the male group and 207 in the female group.

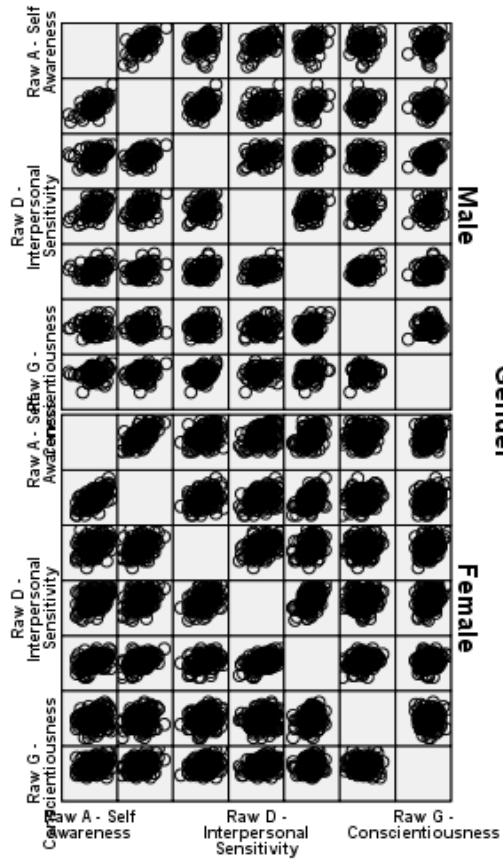
A17.15 Normality and Outliers - EIQ

Here multivariate normality for EIQ has been reported. Univariate normality for all variables and scales have been ascertained and addressed in A.xxx. The Univariate outliers have been excluded from the MANOVA analysis and therefore not included in the check for multivariate normality.

The maximum value for Mahalanobis distance obtained is 38.555. The critical value obtained from the chi square table with 7 as the value for degrees of freedom (number of dependent variables) is 24.32. The alpha value used is 0.001 (Pallant, 2007). The Mahalanobis distance value obtained here is a lot higher than the critical value indicating the presence of multivariate outliers. On closer inspection, there were 3 multivariate outliers. So these cases were removed and the Mahalanobis distance was recalculated. This did not reveal any further multivariate outliers. Therefore, EIQ MANOVA was calculated with this data-set of 301 cases.

A17.16 Linearity - EIQ

This assumption checks the existence of a straight-line relationship between each pair of dependent variable (Pallant, 2007). The scatterplots below do not demonstrate any obvious evidence of non-linearity, thereby satisfy the assumption of linearity.



A17.17 Multicollinearity and Singularity - EIQ

The following table (A18) shows that most of the dependent variables were moderately correlated with each other. Therefore, assumptions of multicollinearity and singularity were not violated.

Table A.18 – Correlation Matrix of EIQ Components

		Correlations						
		Raw A - Self Awareness	Raw B - Emotional Resilience	Raw C - Motivation	Raw D - Interpersonal Sensitivity	Raw E - Influence	Raw F - Intuitiveness	Raw G - Conscientiousness
Raw A - Self Awareness	Pearson Correlation	1	.651**	.318**	.468**	.411**	.145*	.279**
	Sig. (2-tailed)		.000	.000	.000	.000	.012	.000
	N	301	301	301	301	301	301	301
Raw B - Emotional Resilience	Pearson Correlation	.651**	1	.353**	.375**	.412**	.187**	.266**
	Sig. (2-tailed)	.000		.000	.000	.000	.001	.000
	N	301	301	301	301	301	301	301
Raw C - Motivation	Pearson Correlation	.318**	.353**	1	.388**	.371**	.147*	.326**
	Sig. (2-tailed)	.000	.000		.000	.000	.011	.000
	N	301	301	301	301	301	301	301
Raw D - Interpersonal Sensitivity	Pearson Correlation	.468**	.375**	.388**	1	.468**	.091	.336**
	Sig. (2-tailed)	.000	.000	.000		.000	.116	.000
	N	301	301	301	301	301	301	301
Raw E - Influence	Pearson Correlation	.411**	.412**	.371**	.468**	1	.237**	.244**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	301	301	301	301	301	301	301
Raw F - Intuitiveness	Pearson Correlation	.145*	.187**	.147*	.091	.237**	1	.070
	Sig. (2-tailed)	.012	.001	.011	.116	.000		.225
	N	301	301	301	301	301	301	301
Raw G - Conscientiousness	Pearson Correlation	.279**	.266**	.326**	.336**	.244**	.070	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.225	
	N	301	301	301	301	301	301	301

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

* . Correlation is significant at the 0.05 level (2-tailed).

A17.18 Homogeneity of variance-covariance matrices - EIQ

Box's Test of Equality of Covariance Matrices revealed a significance level of 0.903 which is larger than 0.001, therefore the assumption of homogeneity of variance-covariance matrices has not been violated.

A17.19 Levene's Test - EIQ

The Levene's Test of Equality of Error Variances is used to check whether the assumption of equality of variance for each variable has been violated or not. The test result for each of the EIQ variables were larger than 0.05. Therefore, it was concluded that the assumption of equality of variance was not violated for any of the variables.

APPENDIX 18

COMPARISON OF CORRELATION RESULTS
AFTER CONTROLLING FOR SOCIAL
DESIRABILITY BIAS

AND

WITHOUT CONTROLLING FOR SOCIAL
DESIRABILITY BIAS

COMPARISON OF CORRELATION RESULTS AFTER CONTROLLING FOR SOCIAL DESIRABILITY BIAS AND WITHOUT CONTROLLING FOR SOCIAL DESIRABILITY BIAS

The following tables (A19 to A27) show the detailed factor-wise breakdown of results comparing the partial correlation scores (obtained after controlling for the effect of social desirability) with the zero-order correlation scores (obtained without controlling for the effect of social desirability). As indicated in the chapter 9, while the actual value of *r* was marginally lower than when MCSDS was not controlled for; the significance level, direction and general strength of the correlations remained the unaltered.

Table A19 - SUEIT Test and Transformational Leadership – Partial and Zero-Order Correlations

Swinburne University Emotional Intelligence Test and Transformational Leadership						
Controlling for Social Desirability						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TL Total	0.572** n = 293	0.305** n = 293	0.525** n = 293	0.232** n = 293	0.495** n = 293	0.329** n = 303
Idealised Influence - A	0.343** n = 293	0.108 n = 293	0.340** n = 293	0.084 n = 293	0.367** n = 293	0.252** n = 293
Idealised Influence - B	0.432** n = 293	0.259** n = 295	0.339** n = 296	0.282** n = 296	0.338** n = 294	0.184** n = 296
Idealised Influence - Total	0.462** n = 293	0.216** n = 293	0.410** n = 293	0.205** n = 293	0.420** n = 293	0.278** n = 293
Inspirational Motivation	0.491** n = 293	0.275** n = 295	0.424** n = 297	0.198** n = 296	0.462** n = 294	0.264** n = 296
Intellectual Stimulation	0.416** n = 293	0.239** n = 295	0.369** n = 297	0.198** n = 308	0.342** n = 294	0.210** n = 296
Individualised Consideration	0.442** n = 293	0.226** n = 295	0.450** n = 297	0.140* n = 296	0.344** n = 294	0.268** n = 296
Zero-order Correlation						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TL Total	0.603** n = 300	0.334** n = 302	0.550** n = 304	0.197** n = 303	0.537** n = 301	0.396** n = 303
Idealised Influence - A	0.373** n = 300	0.134* n = 302	0.363** n = 304	0.065 n = 303	0.397** n = 301	0.296** n = 303
Idealised Influence - B	0.442** n = 303	0.273** n = 305	0.352** n = 308	0.267** n = 307	0.351** n = 304	0.212** n = 307
Idealised Influence - Total	0.483** n = 300	0.239** n = 302	0.429** n = 304	0.183** n = 303	0.444** n = 301	0.317** n = 303
Inspirational Motivation	0.524** n = 304	0.303** n = 306	0.451** n = 309	0.167** n = 308	0.501** n = 305	0.331** n = 308
Intellectual Stimulation	0.448** n = 304	0.265** n = 306	0.395** n = 309	0.172** n = 308	0.384** n = 305	0.271** n = 308
Individualised Consideration	0.471** n = 304	0.253** n = 306	0.473** n = 309	0.115* n = 308	0.385** n = 305	0.321** n = 308
* p < 0.05, two tailed						
** p < 0.01, two tailed						

Table A20 - Emotional Intelligence Questionnaire and Transformational Leadership – Partial and Zero-Order Correlations

Emotional Intelligence Questionnaire and Transformational Leadership								
Controlling for Social Desirability								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TL Total	0.572** n = 293	0.343** n = 293	0.280** n = 293	0.393** n = 293	0.538** n = 293	0.465** n = 293	0.182** n = 293	0.250** n = 293
Idealised Influence - A	0.433** n = 293	0.225** n = 293	0.239** n = 293	0.275** n = 293	0.314** n = 293	0.393** n = 293	0.182** n = 293	0.277** n = 304
Idealised Influence - B	0.382** n = 296	0.150* n = 296	0.127* n = 296	0.328** n = 296	0.371** n = 296	0.295** n = 3296	0.196** n = 296	0.197** n = 296
Idealised Influence - Total	0.488** n = 293	0.228** n = 293	0.221** n = 293	0.359** n = 293	0.411** n = 293	0.413** n = 293	0.222** n = 293	0.291** n = 293
Inspirational Motivation	0.475** n = 297	0.342** n = 297	0.231** n = 297	0.343** n = 297	0.360** n = 297	0.407** n = 297	0.173** n = 297	0.182** n = 297
Intellectual Stimulation	0.406** n = 297	0.240** n = 297	0.189** n = 297	0.245** n = 297	0.473** n = 297	0.303** n = 297	0.101 n = 297	0.146* n = 297
Individualised Consideration	0.439** n = 297	0.262** n = 297	0.244** n = 297	0.292** n = 297	0.459** n = 297	0.344** n = 297	0.072 n = 297	0.174** n = 297
Zero-order Correlation								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TL Total	0.606** n = 304	0.401** n = 304	0.351** n = 304	0.424** n = 304	0.574** n = 304	0.498** n = 304	0.176** n = 304	0.280** n = 304
Idealised Influence - A	0.456** n = 304	0.268** n = 304	0.283** n = 304	0.299** n = 304	0.346** n = 304	0.416** n = 304	0.179** n = 304	0.297** n = 304
Idealised Influence - B	0.389** n = 308	0.179** n = 308	0.161* n = 308	0.341** n = 308	0.384** n = 308	0.311** n = 308	0.195** n = 308	0.211** n = 308
Idealised Influence - Total	0.504** n = 304	0.269** n = 304	0.266** n = 304	0.379** n = 304	0.436** n = 304	0.435** n = 304	0.219** n = 304	0.309** n = 304
Inspirational Motivation	0.513** n = 309	0.392** n = 309	0.299** n = 309	0.373** n = 309	0.405** n = 309	0.440** n = 309	0.168** n = 309	0.212** n = 309
Intellectual Stimulation	0.442** n = 309	0.291** n = 309	0.251** n = 309	0.277** n = 309	0.501** n = 309	0.336** n = 309	0.099 n = 309	0.174** n = 309
Individualised Consideration	0.470** n = 309	0.310** n = 309	0.298** n = 309	0.320** n = 309	0.488** n = 309	0.375** n = 309	0.071 n = 309	0.200** n = 309
* p < 0.05, two tailed								
** p < 0.01, two tailed								

Table A21 - Swinburne University Emotional Intelligence Test and Transactional Leadership – Partial and Zero-Order Correlations

Swinburne University Emotional Intelligence Test and Transactional Leadership						
Controlling for Social Desirability						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TrL Total	0.045 n = 293	-0.03 n = 293	0.088 n = 293	0.003 n = 293	0.046 n = 293	0.025 n = 293
Contingent Reward	0.379** n = 293	0.195** n = 295	0.351** n = 297	0.130* n = 296	0.337** n = 294	0.222** n = 296
Management by Exception-Active	-0.094 n = 293	-0.147* n = 294	-0.009 n = 294	-0.077 n = 294	-0.060 n = 294	-0.022 n = 305
Management by Exception - Passive	-0.147* n = 293	-0.038 n = 295	-0.160** n = 296	0.001 n = 296	-0.160** n = 294	-0.146* n = 296
Zero-order Correlation						
	Total SUEIT	Emotional Recognition/Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
TrL Total	0.047 n = 300	-0.027 n = 302	0.088 n = 305	0.001 n = 304	0.047 n = 301	0.028 n = 304
Contingent Reward	0.401** n = 304	0.216** n = 306	0.370** n = 309	0.112* n = 308	0.364** n = 305	0.262** n = 308
Management by Exception-Active	-0.072 n = 301	-0.134* n = 303	-0.003 n = 306	-0.082 n = 305	-0.032 n = 302	0.007 n = 305
Management by Exception - Passive	-0.202** n = 303	-0.074 n = 305	-0.198** n = 308	0.024 n = 307	-0.228** n = 304	-0.224** n = 307
* p < 0.05, two tailed						
** p < 0.01, two tailed						

Table A22 - Emotional Intelligence Questionnaire and Transactional Leadership – Partial and Zero-Order Correlations

Emotional Intelligence Questionnaire and Transactional Leadership								
Controlling for Social Desirability								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TrL Total	0.107 n = 293	0.037 n = 293	0.060 n = 293	0.062 n = 293	0.126* n = 293	0.010 n = 293	-0.041 n = 293	0.237** n = 293
Contingent Reward	0.376** n = 297	0.226** n = 297	0.195** n = 297	0.313** n = 297	0.320** n = 297	0.287** n = 297	0.058 n = 297	0.226** n = 297
Management by Exception - Active	-0.009 n = 294	-0.039 n = 294	-0.021 n = 294	0.000 n = 294	0.044 n = 294	-0.069 n = 294	-0.076 n = 294	0.147* n = 294
Management by Exception - Passive	-0.138* n = 296	-0.196* n = 296	-0.136 n = 296	-0.190** n = 296	-0.119* n = 296	-0.170** n = 296	-0.029 n = 296	0.068 n = 296
Zero-order Correlation								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
TrL Total	0.102 n = 305	0.039 n = 305	0.059 n = 305	0.063 n = 305	0.122* n = 305	0.012 n = 305	-0.041 n = 305	0.235** n = 305
Contingent Reward	0.398** n = 309	0.263** n = 309	0.237** n = 309	0.333** n = 309	0.347** n = 309	0.311** n = 309	0.057 n = 309	0.245** n = 309
Management by Exception - Active	0.016 n = 306	-0.014 n = 306	-0.006 n = 306	0.012 n = 306	0.060 n = 306	-0.053 n = 306	-0.076 n = 306	0.154** n = 306
Management by Exception - Passive	-0.211** n = 308	-0.166** n = 308	-0.124* n = 308	-0.225** n = 308	-0.181** n = 308	-0.214** n = 308	-0.029 n = 308	0.031 n = 308
* p < 0.05, two tailed								
** p < 0.01, two tailed								

Table A23 - Emotional Intelligence Questionnaire and Laissez-Faire Leadership – Partial and Zero-Order Correlations

Emotional Intelligence Questionnaire and Laissez Faire Leadership - Spearman's rho								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
LF Leadership n = 309	-0.392**	-0.311**	-0.306**	-0.408**	-0.281**	-0.256**	-0.038	-0.165**
LF Leadership n = 309	-0.392**	-0.311**	-0.306**	-0.408**	-0.281**	-0.256**	-0.038	-0.165**
n = 309								
* p < 0.05, two tailed								
** p < 0.01, two tailed								

Table A24 - Swinburne University Emotional Intelligence Test and Laissez-Faire Leadership – Partial and Zero-Order Correlations

Swinburne University Emotional Intelligence Test and Laissez-Faire Leadership - Spearman's rho						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
LF Leadership	-0.235** n = 304	-0.135* n = 306	-0.237** n = 309	0.133* n = 308	-0.265** n = 305	-0.344** n = 308
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
LF Leadership	-0.235** n = 304	-0.135* n = 306	-0.237** n = 309	0.133* n = 308	-0.265** n = 305	-0.344** n = 308
* p < 0.05, two tailed						
** p < 0.01, two tailed						

Table A25 - Emotional Intelligence Questionnaire and Outcomes of Leadership – Partial and Zero-Order Correlations

Emotional Intelligence Questionnaire and Outcomes of Leadership								
Controlling for Social Desirability								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
OL Total	0.568** n = 277	0.322** n = 277	0.345** n = 277	0.435** n = 277	0.456** n = 277	0.435** n = 277	0.209** n = 277	0.266** n = 277
Extra Effort	0.398 n = 292	0.202** n = 292	0.200** n = 292	0.351** n = 292	0.271** n = 292	0.361** n = 292	0.211** n = 292	0.152** n = 292
Effectiveness	0.531** n = 296	0.300** n = 296	0.309** n = 296	0.413** n = 296	0.446** n = 296	0.393** n = 296	0.131* n = 296	0.307** n = 296
Satisfaction	0.530** n = 279	0.326** n = 279	0.348** n = 279	0.346** n = 279	0.492** n = 279	0.372** n = 279	0.151** n = 279	0.228** n = 279
Zero-order Correlation								
	Total EIQ	Self Awareness	Emotional Resilience	Motivation	Interpersonal Sensitivity	Influence	Intuitiveness	Conscientiousness
OL Total	0.616** n = 286	0.397** n = 286	0.427** n = 286	0.468** n = 286	0.511** n = 286	0.477** n = 286	0.200** n = 286	0.300** n = 286
Extra Effort	0.428** n = 303	0.249** n = 303	0.253** n = 303	0.374** n = 303	0.309** n = 303	0.387** n = 303	0.207** n = 303	0.176** n = 303
Effectiveness	0.564** n = 308	0.356** n = 308	0.370** n = 308	0.441** n = 308	0.486** n = 308	0.428** n = 308	0.127* n = 308	0.333** n = 308
Satisfaction	0.606** n = 289	0.425** n = 289	0.458** n = 289	0.393** n = 289	0.559** n = 289	0.430** n = 289	0.140** n = 289	0.272** n = 289
* p < 0.05, two tailed								
** p < 0.01, two tailed								

Table A26 - Swinburne University Emotional Intelligence Test and Outcomes of Leadership – Partial and Zero-Order Correlations

Swinburne University Emotional Intelligence Test and Outcomes of Leadership						
Controlling for Social Desirability						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
OL Total	0.509** n = 277	0.260** n = 277	0.531** n = 277	0.069 n = 277	0.463** n = 277	0.339** n = 277
Extra Effort	0.432** n = 292	0.190** n = 292	0.455** n = 292	0.108 n = 292	0.395** n = 292	0.251** n = 292
Effectiveness	0.400** n = 293	0.232** n = 295	0.413** n = 296	0.015 n = 296	0.370** n = 294	0.290** n = 296
Satisfaction	0.452** n = 279	0.260** n = 277	0.531** n = 277	0.069 n = 277	0.463** n = 277	0.339** n = 277
Zero-Order Correlations						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
OL Total	0.554** n = 284	0.297** n = 285	0.560** n = 286	0.032 n = 286	0.524** n = 284	0.424** n = 285
Extra Effort	0.458** n = 299	0.215** n = 301	0.474** n = 303	0.087 n = 302	0.425** n = 300	0.299** n = 302
Effectiveness	0.441** n = 303	0.263** n = 305	0.442** n = 308	-0.010 n = 307	0.421** n = 304	0.355** n = 307
Satisfaction	0.517** n = 286	0.283** n = 287	0.477** n = 289	0.021 n = 289	0.503** n = 286	0.473** n = 288
* p < 0.05, two tailed						
** p < 0.01, two tailed						

Table A27 - Emotional Intelligence Questionnaire and Swinburne University Emotional Intelligence Test – Partial and Zero-Order Correlations

Emotional Intelligence Questionnaire and Swinburne University Emotional Intelligence Test						
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
Total EIQ	0.560** n = 293	0.281** n = 295	0.466** n = 297	0.064 n = 296	0.581** n = 294	0.562** n = 296
Self Awareness	0.382** n = 293	0.124* n = 295	0.258** n = 297	0.007 n = 296	0.498** n = 294	0.539** n = 293
Emotional Resilience	0.292** n = 293	0.181** n = 295	0.200** n = 297	-0.162** n = 296	0.477** n = 294	0.568** n = 296
Motivation	0.349** n = 293	0.210** n = 295	0.379** n = 297	0.018 n = 296	0.276** n = 294	0.254** n = 296
Interpersonal Sensitivity	0.466** n = 293	0.342** n = 295	0.391** n = 297	0.171** n = 296	0.346** n = 294	0.285** n = 296
Influence	0.515** n = 293	0.281** n = 295	0.470** n = 297	0.130* n = 290	0.483** n = 294	0.348** n = 296
Intuitiveness	0.276** n = 293	0.083 n = 295	0.154** n = 297	0.240** n = 296	0.300** n = 294	0.169** n = 296
Conscientiousness	0.088 n = 293	0.065 n = 295	0.154** n = 297	-0.159** n = 296	0.057 n = 294	0.198** n = 296
	Total SUEIT	Emotional Recognition/ Expression	Understanding Emotions External	Emotions Direct Cognition	Emotional Management	Emotional Control
Total EIQ	0.615** n = 304	0.327** n = 306	0.504** n = 309	0.011 n = 308	0.653** n = 305	0.648** n = 308
Self Awareness	0.456** n = 304	0.181** n = 306	0.316** n = 309	-0.036 n = 308	0.576** n = 305	0.619** n = 304
Emotional Resilience	0.388** n = 304	0.151** n = 306	0.271** n = 309	-0.193** n = 309	0.571** n = 305	0.657** n = 308
Motivation	0.390** n = 304	0.240** n = 306	0.407** n = 309	-0.006 n = 308	0.331** n = 305	0.317** n = 308
Interpersonal Sensitivity	0.524** n = 304	0.378** n = 306	0.432** n = 309	0.122* n = 308	0.436** n = 305	0.397** n = 308
Influence	0.553** n = 304	0.313** n = 306	0.499** n = 309	0.096 n = 308	0.530** n = 305	0.417** n = 308
Intuitiveness	0.262** n = 304	0.082 n = 306	0.151** n = 309	0.239** n = 308	0.274** n = 305	0.149** n = 308
Conscientiousness	0.135* n = 304	0.093 n = 306	0.184** n = 309	-0.174** n = 308	0.119* n = 305	0.250** n = 308
* p < 0.05, two tailed						
** p < 0.01, two tailed						