

**EMOTIONAL INTELLIGENCE AND LEADERSHIP STYLES IN A
PETROCHEMICAL ORGANISATION**

by

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FOR THE ATTENTION OF THE READER

SCOPE OF THE DISSERTATION

For this Masters' dissertation of limited scope (50% of the total Masters' degree) the Department of Industrial and Organisational Psychology prescribes an article format. This format involves four chapters - an introductory and literature chapter, followed by a research article (presented as chapter 3) and ending with a conclusion / limitations / recommendations chapter. For this dissertation, the department recommends a boundary of approximately 60 to 80 pages.

TECHNICAL AND REFERECE STYLE

In this dissertation I have chosen the publication guidelines of the South African Journal of Industrial Psychology to structure my dissertation and article. Therefore, the APA style was followed in terms of the technical editing and referencing.

DECLARATION

I, Maganagie Pillay, student number 33963924, declare that **'Emotional Intelligence and Leadership Styles in a Petrochemical Organisation'** is my own work, and that all the sources that I have used or have quoted from have been indicated and acknowledged by means of complete references.

I further declare that ethical clearance to conduct the research has been obtained from the Department of Industrial and Organisational Psychology, University of South Africa, as well as from the participating organisation.

SIGNATURE

DATE

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SUMMARY

EMOTIONAL INTELLIGENCE AND LEADERSHIP STYLES IN A PETROCHEMICAL ORGANISATION

by

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DEPARTMENT: INDUSTRIAL AND ORGANISATIONAL PSYCHOLOGY
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The aim of this study was to determine the relationship between emotional intelligence and leadership styles in a petrochemical organisation (represented by transformational, transactional and laissez-faire leadership styles) and to determine if emotional intelligence can predict an effective leadership style. Leaders (N = 161) were selected from a business within a South African petrochemical organisation. Self reports from the EQ-i and the Multifactor Leadership Questionnaire (MLQ Form 5X) were analysed. Correlation analyses indicated statistically significant relationships between emotional intelligence and transformational and laissez-faire leadership. Findings indicated positive correlations between emotional intelligence (specifically adaptability) and transformational leadership. Negative correlations were obtained between emotional intelligence (specifically intrapersonal skills) and laissez-faire leadership. Theoretical implications and practical applications of these findings were discussed.

KEY WORDS:

Emotional intelligence; transformational leadership; transactional leadership; laissez-faire, effective leadership

CHAPTER 1. SCIENTIFIC ORIENTATION TO THE RESEARCH

This dissertation explores the relationship between Emotional Intelligence and Leadership Styles in a Petrochemical Organisation (represented by transformational, transactional and laissez-faire leadership styles) and determines if emotional intelligence can predict an effective leadership style. Chapter 1 contains the background and motivation, the problem statement, the aims, paradigm perspective, research design and method, as well as the chapter layout.

1.1 BACKGROUND AND MOTIVATION

In an epoch of turbulent millennium changes including economic recessions, technological acceleration, governance and ethics, health and environmental and intensified global competition, the worldwide organisational landscape is transforming rapidly (Rasool & Botha, 2011).

Yukl (2006) intercepted that effective leadership is necessary to enable businesses to survive these challenges and enable essential transformation in order to remain competitive.. Research reveals that the leadership effect on productivity and profitability is far greater than the sum effect of strategy, quality, manufacturing technology, research and development which demonstrates the positive relationship between leadership development and competitive advantage (Bryman, 2013).

The potential of South African organisations to survive the 21st century landscape will depend on the ability to acclimatise to the micro and macroeconomic convulsions (Van Staden, Scheepers & Reiger, 2000; Ayres, 2003; Stander, 2007). Democratic South Africa has proven herself, in a relatively short time, as a potential competitive role player in the global investment community (Peralta & Stark, 2006). At the same time the South African organisational environment remains challenged by additional adverse factors such as a legacy of apartheid, skill shortages, and the pressure of employment equity (Pauw, Oosthuizen & Van der Westhuizen, 2008).

Today the petrochemical industry remains significantly influenced by all these factors especially globalisation of the world economy. Rising demand for energy has translated to

declines in supply, skyrocketing costs, and mounting environmental concerns. In keeping pace with these changes, the petrochemical industry continues to adjust through divestitures, joint ventures and other forms of partnership leading to fewer and larger producers of commodity petrochemicals with broader geographical reach (Rasool & Botha, 2011).

These expansion opportunities bring with them tremendous economic spin-offs for the South African economy and specifically for locally based petrochemical organisations (Muhammad, Tiwari & Muhammad, 2011). These descriptions clearly depict the present scenario in the petrochemical organisation under study. As the organisation transitions to the new phase of existence, its fundamental future success lies in leadership practice.

To achieve this it beckons on 21st century leadership effectiveness, which means that a proactive role in the strategic management of the organisation is needed, as well as providing visionary leadership together with a calculated understanding of the internal and external forces that are likely to generate sombre threats or proffer novel opportunities (Stander, 2009). Barbuto and Burbach (2006) expound that successful leaders require a global mindset and skill, as well as an awareness of personal competencies and shortcomings.

Relatedly, Bar-On (2006) defines emotional intelligence (EI) as a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands (Clarke, 2010). Interestingly, it is over 20 years since the concept of emotional intelligence (EI) was first described in the literature (Salovey & Mayer; 1990), and almost 10 years since the first article on the topic of effective leadership and EI was published (Cacioppe, 1997; Lindebaum & Cartwright, 2010). In prevailing years, research on EI in the context of leadership has been testament to this continuing interest (Cavazotte, Moreno & Hickmann, 2012). This is reflected for example in studies of leader's emotional expression in the workplace (Hur van den Berg & Wilderom, 2011) as well as how leadership styles impacts the emotional states of employees, enhancing organisational commitment, proactive behaviour, and their job performance (Riggio & Reichard, 2008).

Nevertheless, relentless debates continue regarding the contribution of EI to our understanding of leadership (Antonakis, Ashkanasy, Dasborough, 2009).

The purpose of this study is to investigate how emotional intelligence (EI) may indicate the inclination to demonstrate transactional, non-transactional or transformational leadership (TL) behaviour (Bass & Avolio, 1997) when occupying a leadership position in a petrochemical organisation. The context is leadership development and the verification of such relationships would be significant for leadership development practices in identifying, training and developing people in their current positions and for future leadership.

“Emotional intelligence is the single greatest driver of effective leadership.” (Mader, 2007, p.5). “Leaders must develop healthy relationships and manage conflict while achieving productive goals. To accomplish this mandate, leaders need emotional intelligence to build, maintain, and strengthen partnerships within and outside their organisation.” (Turner, 2007, p.1). Effective leaders possess multiple forms of intelligence, which allow them to respond successfully to various situations (Riggio & Reichard, 2008).

In particular, scholars have noted that emotional skills are essential for executive level leader performance (Carmeli, 2003; Katz & Kahn, 1978) and become increasingly important (compared to IQ and technical skills) as individuals advance within their organisation hierarchies (Dulewicz & Higgs, 2003; Goleman, Boyatzis, McKee, 2002; Rosete & Ciarrochi, 2005). Goleman (1998, p. 93) states that “effective leaders are alike in one crucial way: they all have a high degree of emotional intelligence” and suggests that emotional intelligence is the *sine qua non* of leadership.

With the maturation of the EI construct in the psychology literature, scholars have sought to link emotional competencies to leadership behaviour and organisation performance (Bono, Foldes, Vinson & Muros, 2007; Cavazotte, Moreno & Hickmann, 2012). Despite the proposed relationship between EI and leadership and the recent increase in research, empirical evidence supporting such conjectures is still relatively sparse (Antonakis, Ashkanasy, Dasborough, 2009).

Preceding researchers advocated the associations between EI and Transformational Leadership style (Barling, Slater & Kelloway, 2000; Clarke, 2010; Gardner & Stough,

2002). Transformational leaders, in contrast to transactional or laissez-faire leaders are seen as agents of social and organisational change and effective leaders (Bass, 1985; Bass, Avolio, Jung & Berson, 2003; Cavazotte, Moreno & Hickmann, 2012). They are described as models for conduct and as being able to articulate a new and stimulating vision in their followers. In doing so, they elevate morale, inspire followers and motivate them toward greater achievements or conquests (Bass, 1985).

Transactional leaders are viewed more as managers that maintain the status quo (Rosete & Ciarrochi, 2005). Their focus is addressing the current needs of subordinates by paying attention to exchanges (reward for performance, mutual support and bilateral exchanges). Transformational leaders are able to deal with strategic matters more efficiently and in turn are able to build commitment in employees. Such leaders are capable of advancing the organisation. Hence the assumption that transformational leaders are more effective than transactional leaders, in some instances at least (Bass & Avolio, 1994; Cavazotte, Moreno & Hickmann, 2012; McShane & Von Glinow, 2000)

Indeed, positive relationships between emotional intelligence and transformational leadership have been demonstrated in recent studies (Clarke, 2010; Sunindijo, Hadikusumo & Ogulana, 2007). Associated studies, examining emotional intelligence within a project management context, have found emotional intelligence to be a significant area of individual difference associated with transformational leadership (Butler & Chinowsky, 2006; Clarke, 2010; Leban & Zulauf, 2004; Sunindijo, Hadikusumo & Ogulana, 2007). Others have noted the disappointing results of intelligence and personality models in the prediction of exceptional leadership and have argued that EI may represent an elusive 'X' factor for predicting transformational leadership (Brown & Moshavi, 2005).

Compared to transactional leadership, transformational leadership is more emotion-based (Yamminaro & Dubinsky, 1994; Chuang, Judge & Liaw, 2012) and engages heightened emotional degrees (Yammarino & Dubinsky, 1994). Hence, the argument of this study is that the relationship between EI and transformational leadership style will be stronger than the relationship between EI and transactional and laissez-faire leadership styles.

Finally, researchers in the past have also looked at the gender differences for both EI and leadership styles (Mandell & Pherwani, 2003). Research on gender differences in emotional

intelligence has been limited. Although Goleman (1995) considered males and females to have their own personal profiles of strengths and weaknesses for emotional intelligence capacities, studies conducted by Mandell and Pherwani (2003) and Mayer, Caruso and Salovey (1999) indicate that women score higher on measures of emotional intelligence than men. Consequently, although past research on leadership style differences between men and women has been inconclusive, a review of research on leadership and gender consistently demonstrates that women leaders are often negatively evaluated in comparison to their male counterparts, especially when they employ an autocratic leadership style (Eagly, Makhijani, & Klonsky, 1992; Mandell & Pherwani, 2003).

Further exploration of these constructs will be made in Chapter 2

1.2 PROBLEM STATEMENT

In view of the importance of emotional intelligence and leadership styles in a petrochemical organisation, in particular transformational leadership, it was evident that continued research on these variables is important, particularly in the SA multi-cultural context and specifically for the petrochemical organisation under study.

Regardless of the volumes of research on leadership, the requirements of effective leadership are still unclear (Antonakis, Ashkanasy, Dasborough, 2009; Northouse, 2012). Uncertainties persist into reasons why many highly qualified, intelligent and experienced leaders fail to deal with environmental pressures and life in general. Mader (2007) motioned that emotional intelligence is the single greatest driver of effective leadership. Barbuto and Burbach (2006) asserted effective leaders also exhibit high levels of transformational leadership.

Despite decades of research and millions invested in leadership development programmes, the petrochemical organisation under study continues to emphasise cognitive intelligence and technical expertise, neglecting the transformational contributions of emotional intelligence and the call for transformational leadership in itself to adapt to the changing global landscape.

Therefore the aim of this study is to establish an empirical link between emotional intelligence and effective leadership behaviour, specifically the desired transformational leadership. Transformational leaders will be distinguished from transactional and non-transactional leaders by higher emotional intelligence.

The research results could be used to identify and develop emotionally competent, transformational leaders in the petrochemical organisation under study.

Leadership is researched with the aim of improving, training and identifying alternative selection and assessment procedures for evaluating leaders' strengths and developmental areas and reviewing how executive decisions shape the behaviour of the organisation as a whole.

1.2.1 Research questions with regard to the literature review

The following research questions were formulated based on the abovementioned description of the research problem:

Research question 1: How are the concepts of emotional intelligence and leadership styles in a petrochemical organisation conceptualised in the literature and what are the theoretical relationships between these variables?

Research question 2: According to literature do individuals from different gender, management levels and race differ with regard to their emotional intelligence and leadership styles in a petrochemical organisation?

Research question 3: What are the implications of these findings for leadership development practices and future research?

The following research hypotheses were formulated based on the abovementioned description of the research objective:

- H1: There is a significant positive relationship between individuals' emotional intelligence and transformational leadership style
- H2: There is a significant positive relationship between individuals' emotional intelligence and transactional leadership style
- H3: There is a significant negative relationship between individuals' emotional intelligence and laissez-faire leadership style
- H4: There is a significant difference between the EQ scores of men and women respondents from different job levels and between race groups
- H5: There is a significant difference between the Leadership scores of men and women respondents from different management levels and between race groups

1.3 AIMS OF THE RESEARCH

The general and specific aims formulated for the research are indicated below.

1.3.1 General aim of the research

The general aim of this research was to establish if there is a relationship between emotional intelligence and leadership styles in a petrochemical organisation, and to determine if emotional intelligence can predict an effective leadership style.

1.3.2 Specific aims of the research

The following specific aims were formulated for the literature review and the empirical study:

1.3.2.1 Literature review

- To conceptualise the constructs emotional intelligence and leadership styles in a petrochemical organisation from a theoretical perspective
- To conceptualise a theoretical relationship between emotional intelligence and leadership styles in a petrochemical organisation
- To conceptualise a theoretical relationship between gender, management levels and race with emotional intelligence and leadership styles in a petrochemical organisation.

1.3.2.2 Empirical study

- To determine the relationship between emotional intelligence and leadership styles in a petrochemical organisation
- To determine if EI predicts an effective leadership style
- To determine differences between emotional intelligence and leadership styles in a petrochemical organisation of individuals from different gender, management levels and race.

1.3.2.3 Additional aim

- To formulate recommendations from the research findings with respect to Industrial and Organisational Psychology with a focus on leadership development practices for the company under investigation
- and for further research.

1.4 THE PARADIGM PERSPECTIVE OF THE RESEARCH

According to Babbie (2001), paradigms are the “fundamental models or frames of reference we use to organize our observations and reasoning” (p. 42). The research is conducted within the Industrial and Organisational Psychology field. This field has developed from a problem-focused approach to include the domains of six sub-fields namely Personnel Psychology, Organisational Psychology, Career Psychology, Consumer Psychology, Ergonomics and Psychometrics (Barnard & Fourie, 2008). Industrial Psychologists of today contribute to training and development, change management, evaluation and assessment, organisational development, labour relations, strategic management, career management, psychometric testing, selection and placement, counselling and human resource management (Pienaar & Roodt, 2001). With reference to this research, emotional intelligence and leadership styles in a petrochemical organisation fall under organisational psychology as they influence the effectiveness of the leader and the organisation.

1.4.1. The positive psychology paradigm

Snyder and Lopez (2002) include the concept of emotional intelligence within the framework of positive psychology. This paradigm focuses on the factors which promote health and adaptability rather than illness and dysfunction. To the extent that emotional

intelligence can be viewed as an ability to focus energy on emotionally-laden information for the purpose of problem solving and modifying behaviour so as to adapt to the environment, it can be viewed as a promising component within the positive psychology paradigm (Salovey, Mayer, & Caruso, 2002).

1.4.2 The humanistic paradigm

The humanistic paradigm is concerned with the development of the self within a self-actualisation framework, which is also intent on developing the positive side of psychology (Aanstoos, 2003). At the heart of the paradigm lays the claim that humanistic psychology is about openness to human experiences (Hiles, 2000). Carpuzzi and Gross (2003) contributed to this by eluding that humanism centres on human capacity and potential. This approach is relevant to the leadership constructs proposed in this study. Individuals who are self-actualised are usually deeply involved in causes beyond themselves – hence they are focused on their self-developed potential which becomes an open engagement with the world and others.

1.4.3. The functionalist paradigm

The empirical findings will be presented from a functionalist paradigm perspective (Morgan, 1980; Spencer, 2005). This paradigm is based on the assumption that society is concrete and real, as well as systematic or orderly. Behaviour is seen as contextual, and there is a belief that objective observations can be made and conclusions drawn. This paradigm is crucial to this study because the research attempts to draw objective conclusions by minimising errors through statistical data analysis.

1.5 RESEARCH DESIGN

The research approach, method, participants, measuring instruments, procedure and statistical analysis are as follows:

1.5.1 Research approach

A survey design using quantitative data was used to answer the research objectives. The specific survey design can be classified as both descriptive and exploratory of the emotional intelligence and leadership styles in a petrochemical organisation within the SA Petrochemical organisation (Cohen, Manion & Morrison, 2007). The research used both

primary data collected via survey research (EQ) and secondary data already collected by the organisation (MLQ). The MLQ data were all still considered to be valid and stored by the SA Petrochemical organisation in a database to which the researcher had access.

1.5.2 Research method

The research method consists of two phases: a literature review and an empirical study.

Phase 1: Literature review

Once the conceptualising of the constructs of Emotional Intelligence and Leadership Styles in a Petrochemical Organisation is done, the integration of the theoretical findings follows in order to determine the theoretical relationship amongst them. Information is obtained from publications such as journals, textbooks, theses, dissertations, and reports from research institutions. The internet is also used as a secondary source to research general topics associated with Emotional intelligence and leadership styles in a petrochemical organisation. Thus, an in-depth literature study is used as the basis to sustain sufficient knowledge of the main issues.

Phase 2: Empirical study

This phase consists of a quantitative empirical study and encompasses the following areas:

Research participants

A simple random sampling design was used to collect the data for the EQ questionnaire. The sample frame, a complete list of all members of the population in which the researcher is interested, was defined as:

'a database of leaders, who already had valid MLQ data on file, and who were currently working in a large global organisation in the energy sector of the industry.'

The database contained 950 leaders and a simple random sample of 370 was drawn by numbering each record and then using a random number generator program to choose the sample. A final sample of 161 respondents included senior, middle and supervisory level leaders. The inclusion of these categories of leaders was based on the premise that effective leadership is not confined to the occupants of the highest or most prominent positions in terms of influencing others (Bass & Avolio, 1994) – such leaders can be found at all levels of the organisations' hierarchies (Avolio, 1999).

The biographical characteristics of the sample include age, race, management levels, educational level and years of experience and qualification.

For the purposes of this study a leader will be defined as a person in a managerial position, a team leader or a supervisor.

Measuring instruments

The following questionnaires were used in the empirical study:

A demographic questionnaire was compiled and used in order to gather information relating to the race, gender, age, qualifications, years of experience and management levels (Senior, Middle and Supervisory) of the participants' service in the petrochemical industry.

To measure emotional intelligence the *EQ-i* (Bar-On, 2006) was used. The *EQ-i* is a self-report inventory comprising 133 declarative statements phrased in the first person singular. Participants are required to indicate the degree to which each statement is true of the way they typically think, feel or act on a 5-point response scale ranging from (1) *very seldom or not true of me* to (5) *very often true of me or true of me*. The items of the *EQ-i* are summed to yield scores on 15 lower order subscales, five higher order composite scales and an overall EI score. High scores indicate a high level of EI (Palmer, Gardner & Stough, 2003). Psychometric analyses of the *EQ-i* reported in the technical manual (Bar-On, 2006) indicated that it has good internal reliability and test-retest reliability. With a South African sample (n=9892) the Cronbach alphas were high for all of the subscales, ranging from .69 (Social Responsibility) to .86 (Self-Regard). The Alpha coefficients were also high for all of the composite scales, ranging from .82 (General Mood and Stress Management) to .92 (Intrapersonal) (Bar-On, 2006). The *EQ-i* was completed online and raw scores were accessed from the test developer.

Leadership styles were measured using the *Multifactor Leadership Questionnaire (MLQ)* (Form 5X) (Bass & Avolio, 1997). Although the multi-rater format was used in this study, only self-ratings of leaders were used. The *MLQ* Form 5X contains 45 questions using a 5-point scale ranging from (0) not at all to (4) frequently, if not always. It is a 36-item measure of leadership style assessing transformational, transactional and laissez-faire leadership

behaviours. The 9-items that measure leadership outcomes were eliminated for the purpose of this study.

According to the MLQ technical manual (Bass & Riggio, 2006), acceptable internal consistencies of about .80 were reported on all scales. Hartog, Muijen and Koopman (2011) found for a sample of 1200 employees from several diverse organisations (commercial businesses, health-care organisations, welfare institutions and local governments) that the internal consistency of transformational leadership ranged from .72 to .93; transactional leadership ranged from .58 to .78; and laissez-faire leadership was .49.

Administration procedure

In order for research to be conducted in the SA petrochemical industry, initial permission had to be obtained from the senior psychologists supervising the ethical use of assessments, followed by authorisation from the HR manager and the Managing Director of the business that was selected for the study. The HR manager sent out a communication to all HR officers and leaders informing them of the study and inviting them to participate. This ensured that the participants were provided with a standard briefing. The briefing included matters such as voluntary participation, informed consent, confidentiality and the purpose and aim of the study, including the focus of the various questionnaires. This was followed by a complete explanation of each of the instruments. It was also made clear that volunteering and consenting to complete the on-line EQ-i automatically consented to the use of existing MLQ (Form 5X) data. The participants then completed the on-line EQ-i questionnaire. The demographic information and EQ-i in raw data format was provided to the researcher by Jopie Van Rooyen and Partners as per contracted legal agreement. The MLQ (Form 5X) data was accessed from the organisation's archives.

Statistical analyses

Statistical analyses were carried out by means of the Statistical Package for Social Sciences (SPSS) computer program for Windows version 18.0 (2010). Descriptive statistics were obtained for all dependent and independent variables. Cronbach's alpha was used to determine the internal consistency of the measuring instruments. Pearson product-moment correlations were calculated to assess the direction and strength of the relationships between the variables and the significance level was set at .05. For the purposes of this study, *r* values larger than .30 were considered to have a medium to large practical effect (Cohen,

1992). Multiple regression analysis was used to determine if EI predicts leadership styles (transformational, transactional, laissez faire). Additionally, ANOVA tests were performed to determine whether individuals from different management levels differed in terms of their Emotional intelligence and leadership styles in a petrochemical organisation. A t-test was used to determine if African and White respondents differ in their scores and a non-parametric version of the t-test was chosen to examine differences between men and women, due to the inequality in base sizes.

1.6 CHAPTER LAYOUT

The chapters of this dissertation follow that of Masters Degree Option 1 and the chapters are as follows:

Chapter 1: Scientific orientation to the research

Chapter 2: Literature Review

Chapter 3: Article

Chapter 4: Conclusions, limitations and recommendations

1.7 CHAPTER SUMMARY

In chapter 1, the scientific orientation to the research was discussed. The orientation included the background to and motivation for the study, the paradigm perspective, the research problem, the aims, the research design and methods that were employed. The chapter concluded with the chapter layout. In chapter 2, Emotional intelligence and leadership styles in a petrochemical organisation will be examined.

CHAPTER 2. LITERATURE REVIEW

This chapter defines and conceptualises the constructs of emotional intelligence and leadership styles. The chapter includes an integration of existing literature, and the presentation of models and theories which are evaluated for both uniqueness and commonalities. The final section of the chapter reviews the theoretical integration of emotional intelligence and leadership styles.

2.1 INTRODUCTION

The purpose of this study is to investigate whether an individual's emotional intelligence skills may be an indication of his or her tendency to reveal transformational, transactional, or laissez-faire leadership behaviour and to determine if emotional intelligence can predict an effective leadership style (Bass & Avolio, 1997). Evidence of such relationships would provide significance for organisations' endeavours to identify, train and develop suitable people for current and future leadership positions.

Research on emotional intelligence (EI) in the context of leadership has remained a recurrent area of interest for more than 10 years (Cacioppe, 1997; Cavazotte, Moreno & Hickmann, 2012). This is reflected, for example, in studies of leaders' emotional expression in the workplace (Hur van den Berg & Wilderom, 2011; Bono & Illies, 2006), as well as how leadership styles impact the emotional states of employees, enhancing organisational commitment, proactive behaviour, and their job performance (Riggio & Reichard, 2008).

Nevertheless, relentless debates continue regarding the contribution of EI to our understanding of leadership (Antonakis, Ashkanasy & Dasborough, 2009; Landy, 2005; Locke, 2005). Intermittently, in this study leadership is described as transformational, transactional and laissez-faire leadership styles (Bass & Avolio, 1994). Transformational leaders are seen as those leaders that are able to create a vision, communicate the vision, and build commitment amongst subordinates to the vision and role model the vision (Gardner & Stough, 2002). They exhibit empathic and confident leadership behaviours and are perceived to be effective leaders (Boerner, Eisenbeiss, & Griesser, 2007).

In this chapter the concept, evolution, definitions and theories of emotional intelligence and leadership styles are discussed. This research is formulated to add to the growing body of work evaluating EI. Additionally, this research will address the claimed validity of EI.

2.2 EMOTIONAL INTELLIGENCE

2.2.1 Defining Emotional Intelligence

Until very recently, the concept of emotional intelligence has been ignored due to the rise of scientific management and the myth that emotions of any kind are disruptive in the workplace (Robbins, Judge, Odendaal & Roodt, 2009). However, the most recent empirical research shows that emotions can be constructive and contribute to enhanced performance and better decision making both at work and in private life (Bar-On, 2006).

Emotional intelligence adds new understanding to the concept of human intelligence, as it expands the capacity to measure one's general and overall intelligence (Bar-On, 2000). At large, emotional intelligence addresses the emotional, personal, social and survival dimensions of intelligence. Bar-On (2006) defines emotional intelligence (EI) as a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands (Clarke, 2010). EI is an adaptive ability that allows an individual to signal and respond to changes in relationships within the environment in which he or she functions (Mayer, Salovey & Caruso, 2008).

The assumption that EI research postulates is that awareness and understanding of emotional states and the reasons for emotional reactions results in more effective problem solving. Consequently, emotionally intelligent people may be more adaptable in complex social and interpersonal situations (Austin, Saklofske & Egan, 2005) and hence more equipped to function optimally in demanding environments.

With little consensus about the exact nature of EI a few theories exist. EI is perceived by some researchers to be ability, involving cognitive processing of emotional information, whereas others view EI as a dispositional tendency such as personality. There are some differences as to how to group the varying approaches. These approaches complement rather than contradict each other (Petrides, 2010).

There are three broad lines of theories of emotional intelligence identified, namely the original approach that defined emotional intelligence as an ability, trait, and mixed theories (Ashkanasy & Daus, 2005; Mayer *et al.*, 2008). The ability theory as described by Mayer, Caruso and Salovey (2008) focuses on emotions themselves and their interactions with thought. The trait-based theory of EI can be described as a concentration of emotional intelligence that includes not only mental abilities related to intelligence and emotion, but also other personality dispositions and traits such as motives, sociability and warmth (Mayer, Caruso & Salovey, 1999). The mixed theory of EI does not only focus on the mental ability (as the ability model) but also takes into consideration the personality factors that may have an impact on a person's EI (Mayer *et al.*, 2008).

Thus, the main difference in these three categories is whether the authors of these approaches perceive EI as an innate human trait or a competence that can be systematically developed over time. Even though many researchers believe that EI is based on inborn abilities that vary per person, most of them believe that EI can be improved through training, programming and therapy (Bar-On, 2005).

These approaches and definitions will be further expanded on in the following section.

2.2.2 Emotional Intelligence Theories

As already mentioned it is evident from the varying definitions above that there are different interpretations of EI. Even though many researchers believe that EI is based on inborn abilities that vary per person, most of them believe that EI can be improved through training, programming and therapy (Bar-On, 2005).

2.2.2.1 Ability-based EI

It is at the intersection of emotions and cognition that one finds the ability-based model of EI (Mayer, Salovey, & Caruso, 2008). Salovey and Mayer's (1990) four branch ability model defined emotional intelligence as "intelligence" in the traditional sense that it is as mental abilities to do with emotions and the processing of emotional information that are part of, and contributed to, logical thought and intelligence in general. These abilities were arranged hierarchically from basic psychological processes to the more psychologically

integrated and complex and were thought to develop with age and experience. Furthermore, they were considered to be independent of traits and talents and preferred ways of behaving (Mayer, Salovey, & Caruso, 2008). Sy, Tram and O'Hara (2006) further elaborated on this concept when they noted that managing emotions represents the ability to regulate or change emotions in oneself and in others. Emotionally intelligent individuals can mend unpleasant emotions and enhance emotions, when doing so is appropriate, by employing strategies that alter these emotions.

2.2.2.2 Trait-based EI

The trait model encompasses the theory that individuals have unique cardinal, primary, and secondary traits that differ based on specific situations. According to Petrides (2010), the focus of evaluating emotional intelligence with this trait model is contrastingly different from the cognitive model. According to Fitness & Curtis (2005), in the trait model, self-report measures can be effectively used as emotional intelligence is equated to typical performance instead of maximal performance (Petrides, 2010). Therefore, the trait model is often equated with emotional self-efficacy and differentiates from the ability model holding that the self-measurement dimensions of emotional intelligence cannot be effectively measured by maximal performance tests where peers rate an individual. The Trait Emotional Intelligence Questionnaire (TEIQue) (Petrides, 2010) and the Trait Meta Mood Scale (TMMS) (Fitness & Curtis, 2005) are example instruments utilising the trait model of emotional intelligence.

2.2.2.3 The Mixed Theory

Evolving with the notion of emotional intelligences, the mixed model takes on a holistic view that ability and traits are important pillars for studying emotional intelligence (Mayer, Salovey, & Caruso, 2008). Largely categorised as personality traits, Mayer et. al. (2008) point out that the mixed model emphasises how to understand an individual and traits describe the behavioural characteristics of an individual in specific situations. The mixed model combines these constructs to study how individuals can intellectually understand themselves and use that knowledge to evaluate and manage others. Goleman's model utilises the mixed theory of emotional intelligence (Goleman, 1995) and distinguishes emotional intelligence as comprised of four areas, namely self-awareness, self-management, social awareness, and social skills. Self-awareness according to Goleman (1995) is the cornerstone of emotional intelligence. Goleman described emotional intelligence as general

“character” (Gowing, 2001, p. 89-90), which, while on one hand is admirable, does not necessarily load onto the construct of emotional intelligence. For this reason, this collection of what might be considered emotional intelligence and traits found in the personality domain have come under much criticism (Zeidner, Roberts, & Matthews, 2008).

a) Bar-On Model of Emotional Intelligence

Usually, researchers engage in lengthy discussions on isolating a singular explanation or definition to ensure credible research. This will also apply to this study where the Bar-On model which is based on a mixed theory, will influence most of this research. It is fitting to consider a wider set of definitions for the sake of substantiating the linkages within the research model. Additionally, in contrast to the sum of two constructs of emotion and intelligence, the emphasis here is on emotional functioning in context. The researcher believes that this moves closer to what Bar-On refers to as emotional-social intelligence. Moreover, and fundamental to this study, emotions serve adaptive functions and recruit multiple systems when dealing with adaptive problems (Lord, Klimoski, & Kanfer, 2002). Bar-On (2006) similarly links EI with the coping and adapting nature of emotions.

These constructs are set out as determinants of success and are clustered into constructs or factors. Bar-On (2000) refers to emotional intelligence as a construct and postulates that there is a considerable overlap of many concepts involved in emotional intelligence.

Bar-On (2006) differed slightly in building a five-phase model inculcating Gardner's (1983) multiple intelligence framework. As a result, Bar-On's model included intrapersonal skills, interpersonal skills, adaptation, stress management, and general mood. This model established the dependency between emotional and social intelligence for people to identify, monitor, and manage themselves and other's emotions (Bar-On, 2006).

Bar-On (2006) defines emotional intelligence (EI) as a cross section of interrelated emotional and social competencies, skills and facilitators that determines how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands (Clarke, 2010).

Bar-On Scales

Bar-On (2000) operationalised his model according to 15 conceptual components that pertained to five specific dimensions of emotional and social intelligence. These were:

1 Intrapersonal Composite Scale (RAeq)

The intrapersonal area represents abilities, capabilities, competencies and skills pertaining to the inner self. The subscales of this composite scale include:

1.1 Self-regard (SR): This refers to the accuracy at which one perceives, understands and accepts oneself.

1.2 Emotional Self-awareness (ES): This refers to the awareness and recognition of one's feelings and emotions, to differentiate between them, and to understand what caused them and the affect.

1.3 Assertiveness (AS): This refers to the ability to effectively and constructively express one's emotions, beliefs and thoughts.

1.4 Independence (IN): This refers to the ability to be self-reliant and free of emotional dependency on others (Van Rooyen & Partners, 2000).

1.5 Self-actualisation (SA): This refers to the ability to strive to achieve personal goals and actualise one's potential (Van Rooyen & Partners, 2000).

2 Interpersonal Composite Scale (EReq)

The interpersonal area of emotional intelligence as conceptualised by Van Rooyen and Partners (2000) refers to what is commonly known as 'people skills'. The subscales of this composite scale include:

2.1 Empathy (EM): This refers to the ability to 'tune in' to and to 'emotionally read' others by being sensitive to what, how and why people think and act the way they do (Stein & Book, 2006).

2.2 Social Responsibility (SR): This refers to the ability to positively identify with one's social group and to cooperate with others as well as contribute towards society at large (Van Rooyen & Partners, 2000).

2.3 Interpersonal Relationships (IR): This refers to the ability to establish mutually satisfying relationships and is characterised by intimacy and by giving and receiving affection (Bar-On, 2006).

3 *Adaptability Composite Scale (ADeq)*

The adaptability area of emotional intelligence reveals how successfully the respondent is able to cope with environmental demands and to deal with problematic situations as they may arise (Stein & Book, 2006). The subscales of this composite scale include:

3.1 *Reality-Testing (RT)*: This refers to the ability to accurately and rationally assess the immediate situation (Bar-On, 2000).

3.2 *Flexibility (F)*: This refers to the ability to adapt and adjust one's feelings and thinking to new and changing situations (Van Rooyen & Partners, 2000).

3.3 *Problem-Solving (PS)*: This refers to the ability to recognise and effectively solve problems of a personal or interpersonal nature.

4 *Stress Management Composite Scale (SMeq)*

This dimension of emotional intelligence involves a person's ability to withstand stress without giving in, falling apart or losing control. The subscales of this composite scale include:

4.1 *Stress Tolerance (ST)*: This refers to the ability to effectively and constructively manage emotions such that one can withstand stressful situations without losing control and by actively and confidently coping with stress (Van Rooyen & Partners, 2000).

4.2 *Impulse Control (IC)*: This refers to the ability to effectively and constructively control emotions by delaying or resisting an impulse, drive or temptation to act.

5 *General Mood Composite Scale (GMeq)*

This refers to a person's outlook on life, the ability to enjoy oneself and others and an overall feeling of contentment and / or dissatisfaction (Stein & Book, 2006). The subscale of this composite scale includes:

5.1 *Happiness (HA)*: This refers to the ability to feel content with oneself, others and to enjoy life in work and leisure (Bar-On, 2006).

5.2 *Optimism (OP)*: This refers to the ability to look at the bright side of life and to maintain a positive stance even when facing adversity (Stein & Book, 2006).

Bar-On (2000) draws a comparison with Wechsler (1939) on the factor of optimism suggesting that optimism should be seen as a facilitator of emotionally intelligent behaviour instead of an actual factorial component of it.

According to Hein (2007), more and more researchers in the EI related areas of study confirm that EI helps to predict personal and professional success. To do this we need to manage emotions so they work for us and not against us, and we need to be sufficiently optimistic, positive and self-motivated. Once these scores are examined, this could assist in identifying areas of strengths and areas for development within an individual.

Many authors believe that EI is critical for leaders (Goleman, 1998a; Riggio & Reichard, 2008). Today's effective leadership skills have been described to depend, in part, on the understanding of emotions and the abilities associated with EI (Riggio & Reichard, 2008).

2.2.3 Research on emotional intelligence and demographic variables

Researchers in the past have also looked at demographic differences for both emotional intelligence (Stough, Saklofske, & Parker, 2009). Research on gender differences in emotional intelligence has been limited. Studies conducted by Salovey & Caruso in 2000b and Van Rooy, Dilchert, Viswesvaran, & Ones in 2006 indicate that women score higher on measures of emotional intelligence than men. Women have been shown to have more complex emotion knowledge (Ciarrochi, Hynes, & Crittenden, 2005), empathy (Bar-On, 2000) and social skills (Eagly & Johnson, 1990).

Previous research regarding EI and management levels found that not only are social and emotional skills essential for executive level leaders, but as individuals ascend the organisational hierarchy, emotional intelligence becomes an increasingly relevant determinant of who will and will not be successful (Hooijberg, Hunt & Dodge, 1997; Zaccaro, 2001). In addition, other findings indicated that emotionally intelligent senior managers perform better on the job and with a "strong relationship between superior performing leaders and emotional competence" (Cavallo & Brienza, 2002; Cooper, 1997).

Several studies have reported ethnic group differences in cognitive ability tests (e.g., Schmitt, Rogers, Chan, Sheppard & Jennings, 1997). Roberts, Zeidner, and Matthews (2001) conducted one of the few studies that evaluated ethnic group differences in EI and found conflicting results. Van Rooy, Alonso, and Viswesvaran (2005) found that Blacks scored higher than Whites on the total EI scale equal to a Cohen's *d* of .32

Emotional intelligence not only allows one to predict a leader's performance but also to recognise development areas and make decisions about hiring or promoting in the work context (Spencer & Spencer, 1993).

The next session summarises the most recent findings regarding leadership and leadership styles.

2.3 LEADERSHIP AND LEADERSHIP STYLES

2.3.1 Defining Leadership and leadership styles

Scholars have commented that there are as many definitions of leadership as there are persons having attempted to define the concept (Bass, 1990a; Yukl, 2006). Burns (1978) observed that leadership is one of the most observed and least understood phenomena on earth. Perhaps this is a result of the continuing evolution of the concept in keeping with the continuing evolution of the world of work and the world at large (Lewis, Goodman and Fandt, 2004).

The extreme interest in the study of leadership is in part an aspect of its hypothetical contribution to its significance in influencing change and is seen as a main ingredient for the success of organisations optimising individual and business performance (Globe, 1972; Wu & Shiu, 2009).

Leadership is “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives” (Yukl, 2006).

Furthermore, leadership has been defined as the competencies and processes required to enable and empower ordinary people to do extraordinary things in the face of adversity. These definitions include emotional competencies (Bennis & Nanus, 1997; Kelly, 1986, Senge, 1991) and leader influence is based more on emotion than reason where leaders are able to inspire and motivate followers (Yukl, 2006). In the context of leadership development, once the essence of leadership has been identified, this indefinable concept together with strengths and areas of potential development can be measured (Bennis, 2007; Hackman & Wageman, 2007).

The ability of leaders to influence the emotional climate can strongly influence performance (Humphrey, 2002). Bar-On (1997b) proposes that individuals with higher levels of emotional intelligence have the ability to handle stressful situations without losing control and are able to maintain a calm composure when relating to others even while experiencing intense emotions.

Bass (1985) noted that for decades the study of leadership focused on autocratic versus democratic approaches; directive versus participative decision-making; behaviour initiation versus consideration. Subsequently, it still remains essential to promote an understanding of leadership in all its forms (Bass, 1990a; Yukl, 2006) not dispensing with the context of leadership (Bass, 1990) or where it is practised.

Burns (1978), as previously mentioned, presented comprehensive foundation about the leader-follower relationship, describing it as one in which he influences the follower by appealing to his values and needs. Bass pioneered approaching leadership in terms of three prominent styles of leadership: laissez-faire, transactional and transformational leadership (Burns, 1978; Bass, 1990). Transformational leaders encourage and inspire subordinates to adopt the organisational vision as their own, thus adopting a long-term perspective and focus on future needs (Bass, 1990b). Transactional leaders, in comparison, identify and clarify job tasks for their subordinates and communicate how successful execution of those tasks will result in the receipt of desirable job rewards (Bass, 1990b). Laissez-faire leaders abandon their responsibility leaving their subordinates to work relatively on their own and avoid making decisions (Bass, 1990b).

The next section takes a closer look at leadership theories.

2.3.2 Leadership Theories

In history, we see that leaders are remembered and not the people who followed. Many studies have been undertaken to understand what drives ordinary people to become successful leaders. Theories of leadership attempt to explain factors involved either in the development of leadership or the nature of leadership and its consequences (Bass, 1990b). These theories endeavour to simulate reality demonstrating interrelationships of a range of

factors perceived to be involved in the leadership process which takes place between leaders and followers.

Robbins (2003) proposed key approaches to leadership theories which include the trait, behavioural, contingency and new approaches.

This section will review each theory.

2.3.2.1 Trait Theory

Trait theorists are primarily interested in the measurement of traits, which can be defined as habitual patterns of behaviour, thought, and emotion (Goff, 2003; Northouse, 2012). Researchers examined personality, physical and mental characteristics (Bernard, 1926). This implied that leaders were born, not made, and the key to success was to simply identify such people who were born to be great leaders (Howell & Costley, 2006). Although there was a great deal of research into identifying traits, researchers struggled to find traits that were consistently associated with great leadership (Bass, 1990a). Further research indicated that these are extraordinary personal traits a person possesses which are not affected by the situation the person is in (Crawford, & Weber, 2011).

Stoghill (1974) concluded that to properly explain the emergence of leadership, personality, behaviour and the situation must all be included. Instead of focusing on leaders' traits, researchers began investigating the interactions between leaders and the context of work (Crawford, & Weber, 2011).

2.3.2.2 Behavioural Theory

The next theory in the leadership pursuit dealt with exploring what leaders did that made them effective and how they looked to others (Halpin & Winer, 1957). This focus on actions was a jump from traits in that it assumes that leadership capability can be learned, rather than being inherent (Lussier, & Achua, 2009).

This specific theory accentuates the behaviour of leaders (Fleishman & Hunt, 1973). Various studies were conducted to determine the effect of different behaviour on the outcome and effectiveness of leadership (Ivancevich, Konopaske & Matteson, 2008;

Lussier, & Achua, 2009). The leader's behaviour is the key to determining how well tasks are accomplished by followers (Kreitner and Kinicki, 2010).

This theory demonstrated that unlike traits, behaviours can be seen and learned and also relate directly to the function being performed. However, behavioural models failed to uncover a leadership style that was consistently apt for all situations. Ivancevich, Konopaske & Matteson (2008) wrote that behaviour must, to some degree, be dictated by the specific circumstances in which the leader operates.

2.3.2.3 Contingency Theory

The contingency theorists concluded that the leadership construct was complex and extended beyond simply the behaviour of the leader (Fiedler, 1978). Equally influential was the situational or contextual setting (Fiedler, 1978). This leadership paradigm focused in on the leaders' ability to adapt their behaviour to the specific needs of the individuals or context. Leadership effectiveness depends on the fit between a leader's behaviour and the characteristics of subordinates and the subordinates' task (Fiedler, 1978; Hooper & Martin, 2008).

The drawbacks of the contingency approach were that it failed to provide some universal principles of leadership (Bass, 1990a) and did not clearly explain the relationship between styles and situation (Rice, 1978). Principles such as integrity are not directed by a particular situation (Hooper & Martin, 2008). It assumes that leaders are merely shaped by their situation, when it might be possible that truly effective leaders can shape situations around them (Kotter, 1990).

All of the approaches discussed so far speak about transactional approaches to leadership were leadership stimulates acceptable behaviour and restrains unacceptable behaviour (Bass, 1990b; Hooper & Martin, 2008). A gap still existed for leadership principles that included the needs of the follower and they did not seem to agree on how best the leaders could influence the followers. Furthermore according to Bass (1990a) the approaches lacked rigour, generality and the opportunity to utilise standard measurements.

The Hersey-Blanchard Model is an example of the situational leadership theory and emphasises the appropriateness and effectiveness of leadership styles according to the task-relevant maturity of followers.

Some investigators argue that the most effective leaders pay equal attention to the task and relationship aspects of their leadership role. However, Hersey, Blanchard and Dewey (2008) disagree, saying that the ratio of task to leadership behaviours must shift at different stages in order to ensure leadership effectiveness (Wheelan, 2005). Hence, this model focuses on the effectiveness of leadership styles according to the task relevant maturity of followers.

2.3.2.4 Full Range Leadership Theory

For the aim of this research, the researcher examines leadership styles of the full range leadership theory as measured by MLQ (Form X).

According to Hartog, Muijen, & Koopman, (2011.) ". . . transformational leaders motivate followers to perform beyond expectations". Bass & Riggio, (2006) viewed transformational leaders as earning credits with followers by considering the followers' needs over their own personal needs. In contrast, transactional leaders practice contingent reward where rewards in relation to performance are specified. Non-transactional (*laissez-faire*) leadership constitutes the third type of leadership style (Bass, 1990a). Non-transactional leadership indicates an absence of leadership or the avoidance of intervention or both (Bass & Riggio, 2006).

In a meta-analytical study of transformational and transactional leadership, Judge and Piccolo (2004) established support for the validity of transformational leadership which appears to generalise across many situations. However, they also reported that transactional and transformational leadership styles are so closely related that separating their unique effects is intensified. It has been noted that leaders can display each of these leadership styles at various times and to various degrees but that effective leaders are described as displaying transformational leadership behaviours and transactional leadership behaviours more frequently than passive and ineffective non-leadership style behaviours (Avolio, 1999).

A meta-analysis of 39 studies using the MLQ (Form 5X) found that, in most instances, three transformational behaviours (idealised influence, individualised consideration and intellectual consideration) were related to leadership effectiveness (Harms & Crede, 2010).

1 Transactional leadership style

Transactional leadership refers to the exchange relationship between leader and follower to meet his/her own self-interests (Bass & Riggio, 2006). These leaders focus on task completion and employee compliance and depend greatly on organisational rewards and punishments to influence employee performance (Burns, 1978; Bass & Riggio, 2006). This type of leadership may result in followers' compliance, although it is unlikely to generate enthusiasm for and commitment to task objectives.

Bass (1985a) and Bass and Avolio (2006) portrayed transactional leadership in terms of two characteristics:

1.1 Contingent reward describes the degree that the leaders operate according to the economic and emotional exchange principles with followers. The leader sets out clear goals and expectations and rewards followers for meeting agreed-on objectives. They reward them by fulfilling promises if recognition, pay increases and advancement for employees that perform well.

1.2.1 Management-by-exception (Active) is the extent to which leaders actively monitor followers for mistakes not made, however adhering to the status quo.

1.2.2 Management-by-exception (Passive) describes leaders who wait for mistakes to occur before acting to correct them.

The transactional approach makes a strong link between leadership and the ability to motivate goal attainment and improved performance through reward structures. An emphasis is therefore placed on interpersonal communication and contingent reinforcement (Bass, 1985, Bass & Riggio, 2006). Transactional leadership, although fairly effective as an approach to influence performers, is unsuccessful in directing real change, instead perpetuating the status quo (Bass & Riggio, 2006).

2 Laissez-Faire leadership style

Both transformational and transactional leaders are described as leaders who actively intervene and attempt to prevent problems, however utilising different approaches. In the full-range leadership approach transactional and transformational approaches are contrasted with the third style of leadership, namely laissez-faire leadership (Bass, 1990a).

Laissez-faire leaders avoid making decisions or taking positions, hesitate to take action, abdicate their authority, and are typically absent when they are needed. Although,

conceptually similar to management-by-exception (passive), this form of leadership results in a lack of action even when correction is needed (Bass & Riggio, 2006).

3 *Transformational leadership style*

Transformational leadership refers to the leader moving the follower beyond immediate self-interests to the interests of the group. These leaders stimulate the interest among colleagues and followers to view their work from a new perspective (Bass, 1990). Yukl (2006) defined a transformational leader as one who formulates an inspiring vision, facilitates the vision, encourages short-term sacrifices, and makes pursuing the vision a fulfilling venture. Transformational leaders act as mentors to their followers by encouraging learning, achievement, and individual development. They provide meaning, act as role models, provide challenges, evoke emotions, and foster a climate of trust (Harms & Crede, 2010). They exhibit empathic and confident leadership behaviours and are perceived to be effective leaders (Boerner, Eisenbeiss, & Griesser, 2007).

Four factors or the four “I’s” of transformational leadership have been identified. These are idealised influence or charisma, inspirational motivation, intellectual stimulation, and individualised consideration (Antonakis, 2009).

3.1 *Idealised influence:* Idealised influence attributes refer to the personality of the leader - whether he or she is perceived as confident and powerful, whereas the idealised influence behaviour refers to the charismatic actions of the leader that are focused on values, beliefs and principles (Antonakis, 2009; Bass & Riggio, 2006).

3.2 *Inspirational motivation:* Inspirational motivation refers to the leader’s ability to articulate values and goals which result in followers transcending their own self-interests. According to Bass and Riggio (2006), motivational leaders act in a way that serves to motivate and inspire those around them.

3.3 *Intellectual stimulation:* Intellectual stimulation refers to a leader’s ability to foster innovation and ingenuity by challenging his or hers followers’ common beliefs and perspectives (Bass & Riggio, 2006). As for the intellectual stimulation, the leader stimulates innovation and creativity in his/her followers by questioning assumptions and approaching old situations in new ways (Nicholson, 2007).

3.4 *Individual consideration:* Individual consideration refers to the follower’s development, through mentoring, effective-communication and feedback (Bass & Riggio,

2006). Potential is unlocked through development and by focusing on the requirements of the individual (Nicholson, 2007).

Although there has been a great deal of research demonstrating the effectiveness of transformational leadership behavior in organisations (Judge & Piccolo, 2004), there has been a relative lack of research investigating the antecedents of these behaviors (Rubin, Munz, & Bommer, 2005). Prior research has linked transformational leadership with personality (Bono & Illies, 2006) in addition to other individual differences such as the need for power (Antonakis, 2009; Sashkin, 2004), moral reasoning (Turner, 2007), and secure attachment style (Popper, Mayseless, & Castelnovo, 2000). Higher levels of intelligence have also been found to be related to transformational leadership (Atwater & Yammarino, 1993).

However, overall, the capacity of individual differences to predict transformational leadership has been disappointing. A meta-analysis of the relationship between transformational leadership and the Big Five traits found that the corrected correlation between these constructs ranged from a low of .09 for Openness to a high of .23 for Extraversion (Bono & Illies, 2004). As a consequence, it has been suggested that other, unexplored factors such as EI may play a prominent role in predicting transformational leadership behaviours (Brown & Moshavi, 2005).

2.3.3 Research on leadership styles and demographic variables

Although past research on leadership style differences between men and women has been inconclusive (Carless, 1998; Eagly & Johnson, 1990), research on leadership and gender concluded that among managers women tended to be more democratic in their leadership styles compared to men (Eagly & Carli, 2003). They also reported that a meta-analysis of 45 studies examining gender differences in transformational leader behaviours found that, compared to male leaders, female leaders used and exhibited a more desirable transformational style.

Regarding leadership styles and management levels, executive leaders portray transformational leadership more than transactional leadership as reported in cascading leadership patterns (Bass, Waldman, Avolio, & Bebb, 1987; Katz & Kahn, 1978).

The few studies that do examine ethnic or racial differences are limited in their description of the differences in leadership style between leaders from the minority versus dominating groups (Eagly & Johnson, 1990). Booyesen (2001) examined racial differences in the behaviour of the managers and found that whites were more bottom-line driven in their cultural orientation while blacks were more people focused which is consistent with their belief in Ubuntu. This suggests that blacks may be more inclined to transformational leadership style. In contrast to Booyesen's results, Thomas and Bendixen (2000) found no cultural differences among the managers in their study.

2.4 EI AND LEADERSHIP STYLES

In this section the two research variables conceptualised above, namely EI and leadership styles are integrated in order to build and test the empirical hypotheses.

Today's effective leadership skills have been described, in part, on the understanding of emotions and emotional intelligence (Ryback, 1998; Schlechter & Strauss, 2008). Knowledge relating to exactly how EI translates to effective leadership may lead to significant advances in leadership training and development programmes, as well as the ability to select potentially effective leaders within the petrochemical industry under study.

Although definitions of EI vary widely, it can be thought of as a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate to them, and cope with daily demands (Bar-On, 2006). Leadership, on the other hand, is a process used by an individual to influence group members toward the achievement of group goals in which the group members view the influence as legitimate (Howell & Costley, 2006).

Research on EI in the context of leadership has been reflected, for example, in studies of the leader's emotional expression in the workplace (Hur van den Berg & Wilderom, 2011; Bono & Illies, 2006) as well as in how leadership styles impact the emotional states of employees, enhancing organisational commitment, proactive behaviour, and their job performance (Bono, Foldes, Vinson & Muros, 2007; Riggio & Reichard, 2008). There are copious studies that provide empirical evidence that emotional intelligence has a positive effect on leadership effectiveness (Coetzee & Schaap, 2005; Lindebaum & Cartwright, 2010).

According to Snodgrass and Schachar (2008), both transformational and transactional leadership styles have been found to positively correlate with organisational outcomes in studies of various types of organisations. However, Bass (1997) suggested that transformational leaders (TF) achieved higher levels of success in the workplace than transactional leaders (TA). He noted that TF leaders were promoted more often and produced better financial results than TA leaders (Bass, 1997). Bass (1997) also observed that employees rated TF leaders more satisfying and effective than TL leaders (Snodgrass & Schachar, 2008). A meta-analysis of 39 studies using the MLQ (Form 5X) found that in more instances three transformational behaviours (idealised influence, individualised consideration and intellectual stimulation) were related to leadership effectiveness (Yukl, 2002). In sum, the empirical literature shows repeatedly that transformational leadership is positively associated with leader effectiveness (Bass & Avolio, 2004; Northouse, 2012). Subsequently, Gardner and Stough (2002), and later Barbuto and Burbach (2006), showed that the emotional intelligence of leaders accounted for the majority of the variance in transformational leadership (Harms & Crede, 2010; Hur van den Berg & Wilderom, 2011).

While there are fewer theoretical underpinnings to guide hypotheses regarding the relationship of transactional and laissez-faire styles of leadership with EI, it has been suggested that to provide the effective and equitable exchange characteristic of contingent reward behaviours, leaders should have abilities and traits associated with elevated EI (Barling, Slater, & Kelloway, 2000). Because active management-by-exception behaviours reflect reactive and routine leadership behaviors that need no insight or empathy, it is not likely that there would be any relationship with EI (Barling et al., 2000). However, it is expected that EI would show negative relationships with passive management-by-exception and laissez-faire leadership behaviors, because individuals with elevated EI are thought to be higher on initiative and self-efficacy (Goleman et al., 2002). Furthermore, women (Eagly & Carli, 2003; Van Rooy, Dilchert, Viswesvaran, & Ones, 2006), blacks (Botha, 2001; Van Rooy, Alonso & Viswesvaran, 2005) and senior managers (Katz & Kahn, 1978; Zaccaro, 2001) should show positive relationships with emotional intelligence and transformational leadership.

The purpose of this study is to examine the relationship between EI and leadership styles and determine if EI predicts an effective leadership style as described in the literature as the transformational style of leadership. The objective of the study was motivated by the lack

of research regarding EI and leadership styles within the SA petrochemical organisation. There is, therefore, a need to build the South African literature base regarding transformational leadership and work engagement in particular. The findings of this study may provide input for the use within a petrochemical industry organisation, building up the literature base regarding EI and leadership styles, to highlight specific development areas for leadership practices.

2.5 CHAPTER SUMMARY

Chapter 2 aimed to conceptualise the concepts of emotional intelligence and leadership styles by means of a comparative examination of the existing literature and research on these concepts. An integration of these constructs as well as the international and national research that has been conducted to explain the theoretical linkage between these concepts.

The next chapter will be the article.

CHAPTER 3. RESEARCH ARTICLE

EMOTIONAL INTELLIGENCE AND LEADERSHIP STYLES IN A PETROCHEMICAL ORGANISATION

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Abstract

The aim of this study was to determine the relationship between emotional intelligence and leadership styles in a petrochemical organisation (represented by transformational, transactional and laissez-faire leadership styles) and to determine if emotional intelligence can predict an effective leadership style. Leaders (N = 161) were selected from a business within a South African petrochemical organisation. Self reports from the EQ-i and the Multifactor Leadership Questionnaire (MLQ Form 5X, Version 2009) were analysed. Correlation analyses indicated statistically significant relationships between emotional intelligence and transformational and laissez-faire leadership. Findings indicated positive correlations between emotional intelligence (specifically adaptability) and transformational leadership. Negative correlations were obtained between emotional intelligence (specifically intrapersonal skills) and laissez-faire leadership. Theoretical implications and practical applications of these findings were discussed.

KEY WORDS:

Emotional intelligence; transformational leadership; transactional leadership; laissez-faire, effective leadership

INTRODUCTION

Research on emotional intelligence (EI) in the context of leadership has remained a recurrent area of interest for more than 10 years (Cacioppe, 1997; Cavazotte, Moreno & Hickmann, 2012). This is reflected, for example, in studies of leaders' emotional expression in the workplace (Hur van den Berg & Wilderom, 2011; Bono & Illies, 2006) as well as how leadership styles impact on the emotional states of employees, enhancing organisational commitment, proactive behaviour, and their job performance (Riggio & Reichard, 2008).

Nevertheless, relentless debates continue regarding the contribution of EI to our understanding of leadership (Antonakis, Ashkanasy, Dasborough, 2009; Landy, 2005; Locke, 2005). In this study leadership is described as transformational, transactional and laissez-faire leadership styles (Bass & Avolio, 1994). Transformational leaders, in contrast to transactional or laissez-faire leaders are seen as agents of social and organisational change and effective leaders (Bass, 1985; Cavazotte, Moreno & Hickmann, 2012). They are described as models for conduct and as being able to inspire a new and stimulating vision in their followers. In doing so, they elevate morale, inspire followers and motivate them toward greater achievements or conquests (Bass, 1985). Furthermore, meta-analytic reviews have validated positive connections between transformational leadership of superiors and performance of subordinates (Harms & Crede, 2010; Lowe, Kroeck, & Sivasubramanian, 1996). Subsequently, various studies have found a relationship between transformational leadership and the efficacy of organisations (Avolio, 1999; Chuang, Judge & Liaw, 2012).

Associated studies examining emotional intelligence within a project management context have found emotional intelligence to be a significant area of individual difference associated with effective leadership, and, more specifically, transformational leadership (Clarke, 2010). Others have noted the disappointing results of intelligence and personality models in the prediction of exceptional leadership and have argued that EI may represent an elusive 'X' factor for predicting transformational leadership (Brown & Moshavi, 2005).

Consequently, research is needed to determine if this relationship exists within the South African context, in particular in the petrochemical industry. Limited research exists regarding emotional intelligence and leadership styles in a petrochemical organisation,

particularly transformational leadership within the South African context (Dibley, 2009). The current paper seeks to investigate whether there is a relationship between EI and leadership styles, and to determine if EI can predict an effective leadership style within a South African petrochemical industry. Additionally, it investigates if individuals from different management levels, gender and race differ in regards to emotional intelligence and leadership styles.

The spin-offs of globalisation make the SA petrochemical industry an intriguing milieu in which to examine the relationship between EI and leadership styles (Robbins, Judge, Odendaal & Roodt, 2009). Like other SA industries the petrochemical industry is forced to introduce new business strategies, new management systems, changes in technology and government policy (Stander, 2007). Inevitably, change not only results in the implementation of new systems and processes, but also about the people within this environment (Ndlouvu & Parumasar, 2005). Evidently leader behaviour is accentuated as a fundamental determinant for overall organisational effectiveness (Hunter & Stander, 2009; Wasylyshyn, 2004). Therefore, business performance will be influenced by how well leaders manage their own and their subordinate's emotions (Goleman, Boyatzis, & McKee, 2002; Hunter & Stander, 2009). In this regard, the measurement and development of EI as related to effective leadership can play a significant role (Boateng, 2007; Lam & O'Higgins, 2012) in aiding the petrochemical industry to drive high performance (Laff, 2008) despite the effects of globalisation.

By linking emotional intelligence to transformational leadership, the argument is put forth that there is a positive relationship between these constructs. The primary aim of this study is to determine the relationships between emotional intelligence and leadership styles in a petrochemical organisation (represented by transformational, transactional and laissez-faire leadership styles), in other words to determine whether emotional intelligence can predict an effective leadership style within a SA petrochemical organisation. The results can be used for adjusting training and mentoring programmes in the petrochemical and similar South African industrial contexts.

Emotional Intelligence

Despite numerous conceptual definitions of EI (Bar-On, 1997; Goleman, 1995, 1998; Mayer, Roberts & Barsade, 2008; Salovey and Mayer, 1990), they all share some theoretical underpinnings, which include: an awareness of one's own emotions, an awareness of emotions in others, an understanding of emotions, and the ability to manage one's own emotions and the emotions of others. Although there is a general agreement of EI as a non-academic intelligence with predictive value beyond general intelligence or "g" (Gardner, 1983; Williams, 2011), there is a growing debate as to how EI should be operationalised. The two prominent models of emotional intelligence include an ability-based model (Ashkanasy & Daus, 2005; Mayer *et al.*, 2008) and a skill-based model (Petrides 2010), which differ in their conceptual approach to the application of EI.

The ability model defines EI according to intelligence theory, emphasising the cognitive elements of EI and uses a performance-based assessment method known as the MSCEIT (Ashkanasy & Daus, 2005; Mayer *et al.*, 2008) to distinguish various levels of EI.

The skills based model is trait-based and encompasses a broader set of competencies (Petrides, 2010). In this framework, Bar-On (2006) defined emotional intelligence as a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands (Clarke, 2010). Suffice it to say, each model and its respective inventory has been studied empirically and accepted as a valid measure of emotional intelligence (Coetzee & Schaap, 2005; Lam & O'Higgins, 2012; Ramesar, Koortzen & Oosthuizen, 2009).

For the purpose of the present study, the skills based Emotional Quotient Inventory (EQ-i) was identified as the instrument of choice (Bar-On, 2006), mainly due to the links between EQ-i and leadership (Barling, Slater & Kelloway, 2000; Schlechter & Strauss, 2008) as well as its application in organisational settings (Cooper, 1998; Schlechter & Strauss, 2008). According to Bar-On (2006), the development of EI will result in increased productivity, loyalty, innovation and performance of individuals, groups and organisations.

Attempting a more holistic approach to being emotionally and socially intelligent means that people need to manage emotions so that their emotions work for them and not against them and they are sufficiently optimistic, positive and self-motivated (Bar-On, 2006).

A description of the emotional intelligence model of Bar-On comprises five scales which are intrapersonal skills, interpersonal skills, stress management, adaptability and general mood, with fifteen subscales (Bar-On, 2006):

1. *Intrapersonal Skills* (i.e. self-regard, emotional awareness, assertiveness, independence and self-actualisation);
2. *Interpersonal skills* (i.e. empathy, social responsibility and interpersonal relationships);
3. *Stress management* (i.e. stress tolerance and impulse control);
4. *Adaptability* (i.e. reality testing, flexibility and problem solving); and
5. *General Mood* (i.e. optimism and happiness) (Bar-On, 2006).

According to McCallum and Piper (2000), the model proposed by Bar-On is perhaps the clearest and most comprehensive to date (Bar-On, 1997b, 2004, 2006).

Research on Emotional Intelligence and Demographic variables

Researchers in the past have also looked at demographic differences for emotional intelligence (Stough, Saklofske, & Parker, 2009). Research on gender differences in emotional intelligence has been limited. Studies conducted by Mayer, Salovey and Caruso (2000b) in 2000 and Van Rooy, Dilchert, Viswesvaran, & Ones in 2006 indicate that women score higher on measures of emotional intelligence than men. Women have been shown to have more complex emotion knowledge (Ciarrochi, Hynes, & Crittenden, 2005), empathy (Bar-On, 2000) and social skills (Eagly & Johnson, 1990).

Previous research regarding EI and management levels found that not only are social and emotional skills essential for executive level leaders, but as individuals ascend the organisational hierarchy, emotional intelligence becomes an increasingly relevant determinant of who will and will not be successful (Hooijberg, Hunt & Dodge, 1997; Zaccaro, 2001). In addition, other findings indicated that emotionally intelligent senior

managers perform better on the job and with a strong relationship between superior performing leaders and emotional competence (Cavallo & Brienza, 2002; Cooper, 1997).

Several studies have reported ethnic group differences in cognitive ability tests (e.g. Schmitt, Rogers, Chan, Sheppard & Jennings, 1997). Roberts, Zeidner, and Matthews (2001) conducted one of the few studies that evaluated ethnic group differences in EI and found conflicting results. Van Rooy, Alonso, and Viswesvaran (2005) found that Blacks scored higher than Whites on the total EI scale equal to a Cohen's *d* of .32

Leadership Styles

Burns wrote "One of the most universal cravings of our time is a hunger for compelling and creative leadership" (1978, p. 1). This opinion is as relevant today as it was 30 years ago. Leadership continues to be one of the most passionately debated topics both in practice and research (Cameron, Dutton & Quinn 2003; Northouse 2012).

Three different leadership styles, specifically transformational, transactional, and laissez-faire, have been shown to reflect the full range of leadership styles (Bass, 1985; 1990; Bass & Avolio, 1994). This is measured by the Multifactor Leadership Questionnaire (MLQ Form X) (Avolio, Bass & Jung, 1995). Research on these leadership styles has shown that the transformational leadership style is typically more effective than the transactional and laissez-faire leadership styles (Avolio et al., 1995; Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010). Consequently, transformational leadership has been the basis of various conceptual and empirical debates in literature over the past decade (see Northouse, 2012). Transformational leadership is defined as an approach towards leadership where the leader identifies the needed change, creates a vision to guide the change by inspiring his/her followers, and executes the change with the commitment of his/her followers (Bass & Riggio, 2006; Northouse, 2012). Furthermore, this approach challenges leaders to be creative in solving problems and to develop the leadership capacity of followers via coaching, mentoring and by providing both challenges and support (Bass & Bass, 2008; Northouse, 2012).

According to Bass (1985) four factors that were characteristic of transformational leadership were proposed, commonly referred to as the four I's:

1. Idealized influence (i.e. followers idealize and emulate the behaviours of their trusted leader);
2. Inspirational motivation (i.e. followers are motivated by attainment of a common goal);
3. Intellectual stimulation (i.e. followers are encouraged to break away from old ways of thinking and are encouraged to question their values, beliefs and expectations); and
4. Individualized consideration (i.e. followers' needs are addressed both individually and equitably) (Bass & Avolio, 1997).

“Using a carrot or a stick, transactional leadership is usually characterised as instrumental in followers' goal attainment” (Bass, 1997, p. 133). The transactional leadership process builds upon exchange: the leader offers rewards (or threatens punishments) for the performance of desired behaviours and the completion of certain tasks. This type of leadership may result in followers' compliance, but is unlikely to generate enthusiasm for and a commitment to task objectives (Zagorsek, Dimovski & Skerlavaj, 2009). There are three components in transactional leadership – Contingent reward, whereby subordinates' performance is associated with contingent rewards or exchange relationship; Active Management by exception, whereby leaders monitor followers' performance and take corrective action if deviations occur to ensure outcomes achieved; Passive Management by exception, whereby leaders fail to intervene until problems become serious (Bass, 1997).

Laissez-faire leadership style, on the other hand, can be described as non-leadership or the avoidance of leadership responsibilities. Leaders fail to follow up requests for assistance, and resist expressing their views on important issues (Bass, 1997).

Relatively, transformational leadership is more emotion-based compared to transactional and laissez-faire leadership (Yamminaro & Dubinsky, 1994; Chuang, Judge & Liaw, 2012). Consequently, a number of authors have suggested that underpinning transformational leadership is the enhanced emotional attachment to the leader (Ashkanasy & Tse, 2000; Dulewicz & Higgs, 2003) that arises as a result of leaders using emotional intelligence.

In view of the positive organisational outcomes associated with transformational leadership, researchers are exploring factors that predict transformational leadership behaviours

(Northouse, 2012; Rost, 1991). Such factors will contribute to the theoretical elaboration of transformational leadership theory and have potential for improving leader training and selection (Clarke, 2006). Unmistakably, EI has shown considerable promise as a possible antecedent (Bass & Avolio, 1994; Harms & Crede, 2010).

Today's effective leadership skills have been described, in part, on the understanding of emotions and emotional intelligence (Cooper & Sawaf, 1997; Schlechter & Strauss, 2008). There remains inconclusive data as to what extent EI accounts for effective leadership (Harms & Crede, 2010).

Research on leadership styles and demographic variables

Although past research on leadership style differences between men and women has been inconclusive (Carless, 1998; Eagly & Johnson, 1990). Research on leadership and gender concluded that among managers women tended to be more democratic in their leadership styles compared to men (Eagly & Carli, 2003). They also reported that a meta-analysis of 45 studies examining gender differences in transformational leader behaviours found that, compared to male leaders, female leaders used and exhibited a more desirable transformational style.

Regarding leadership styles and management levels, executive leaders portray transformational leadership more than transactional leadership as reported in cascading leadership patterns (Bass, Waldman, Avolio & Bebb, 1987; Katz & Kahn, 1978).

The few studies that do examine ethnic or racial differences are limited in their description of the differences in leadership style between leaders from the minority versus dominating groups (Eagly & Johnson, 1990). Booyesen (2001) examined racial differences in the behaviour of the managers and found that whites were more bottom-line driven in their cultural orientation while blacks were more people focused, which is consistent with their belief in Ubuntu. This suggests that blacks may be more inclined to transformational leadership style. In contrast to Booyesen's results, Thomas and Bendixen (2000) found no cultural differences among the managers in their study.

Emotional intelligence and leadership styles

All three leadership styles are displayed at various times and to various degrees (Avolio, 1999). According to Snodgrass and Schachar (2008), both transformational and transactional leadership styles have been found to positively correlate with organisational outcomes in studies of various types of organisations. Bass (1997) suggested that transformational leaders (TF) achieved higher levels of success in the workplace than transactional leaders (TA). They produced better financial results and were rated more satisfying and effective than TA leaders (Snodgrass & Schachar, 2008). In sum, the empirical literature repeatedly shows that transformational leadership is positively associated with leader effectiveness (Bass & Avolio, 2004; Northouse, 2012).

Subsequently, Gardner and Stough (2002), and later Barbuto and Burbach (2006) showed that the emotional intelligence of leaders accounted for the majority of the variance in transformational leadership (Harms & Crede, 2010; Hur van den Berg & Wilderom, 2011).

Although there has been much research illustrating the effectiveness of transformational leadership behaviour in organisations (Judge & Piccolo, 2004, Northouse, 2012), there has been a deficiency in research investigating the antecedents of these behaviours (Harms & Crede, 2010). While there are fewer theoretical underpinnings to guide hypotheses regarding the relationship of transactional and laissez-faire styles of leadership with EI, it has been suggested that to provide the effective and equitable exchange characteristic of contingent reward behaviours, leaders should have abilities and traits associated with elevated EI (Barling, Slater, & Kelloway, 2000). Because active management-by-exception behaviours reflect reactive and routine leadership behaviours that need no insight or empathy, it is not likely that there would be any relationship with EI (Barling et al., 2000). However, it is expected that EI would show negative relationships with passive management-by-exception and laissez-faire leadership behaviours, because individuals with elevated EI are thought to be higher on initiative and self-efficacy (Goleman, Boyatzis & McKee, 2002).

Furthermore, women (Eagly & Carli, 2003; Van Rooy, Dilchert, Viswesvaran, & Ones, 2006), blacks (Booyesen, 2001; Van Rooy, Alonso & Viswesvaran, 2005) and senior

managers (Katz & Kahn, 1978; Zaccaro, 2001) should show positive relationships with emotional intelligence and transformational leadership.

The relationship between emotional intelligence and leadership styles (represented by transformational, transactional and laissez-faire leadership styles) and determining if emotional intelligence can predict an effective leadership style needs more investigation, particularly within the South African petrochemical context. By studying the relationship between emotional intelligence and effective leadership further, the researcher aims to contribute to the emotional intelligence and leadership literature. This may provide valuable significance for organisations' endeavours in improving, training and identifying alternative selection and assessment procedures for evaluating leaders' strengths and developmental areas and reviewing how executive decisions shape the behaviour of the organisation as a whole.

The theoretical framework presented in the previous section suggests that the constructs of emotional intelligence and leadership styles are conceptually related. However, the relationship between EI and leadership styles needs to be empirically investigated.

Finally, consistent with the existing literature, the following general aim of the study has been identified as: The study primarily focused on finding empirical linkages between emotional intelligence and leadership styles in a petrochemical organisation (represented by transformational, transactional and laissez-faire leadership styles).

The following specific research hypotheses were formulated:

- H1: There is a significant positive relationship between individuals' emotional intelligence and transformational leadership style
- H2: There is a significant positive relationship between individuals' emotional intelligence and transactional leadership style
- H3: There is a significant negative relationship between individuals' emotional intelligence and laissez-faire leadership style
- H4: There is a significant difference between the EQ scores of men and women, between respondents from different job levels and between race groups

H5: There is a significant difference between the Leadership scores of men and women, between respondents from different management levels and between race groups

Research approach

A quantitative data survey design was used to answer the research objectives. The specific survey design can be classified as both descriptive and exploratory of the emotional intelligence and leadership styles within the SA petrochemical organisation (Cohen, Manion, & Morrison, 2007). The research used both primary data collected via survey research (EQ) and secondary data already collected by the organisation (MLQ). The MLQ data were all still considered to be valid and stored by the South African Petrochemical organisation in an accessible database.

Research method

Research Participants

A simple random sampling design was used to collect the data for the EQ questionnaire. The sample frame, a complete list of all members of the population in which the researcher is interested, was defined as:

'a database of leaders, who already had valid MLQ data on file, and who were currently working in a large global organisation in the energy sector of the industry.'

The database contained 950 leaders and a simple random sample of 370 was drawn by numbering each record and then using a random number generator program to choose the sample. A final sample of 161 respondents included senior, middle and supervisory level leaders. The inclusion of these categories of leaders was based on the premise that effective leadership is not confined to the occupants of the highest or most prominent positions in terms of influencing others (Bass & Avolio, 1994) – such leaders can be found at all levels of the organisations' hierarchies (Avolio, 1999).

The demographic characteristics of the sample are summarised in Table 1 below.

Table 1: Respondents' demographic details

Item	Category	Frequency	%
Race	African	49	3.4
	Coloured	2	1.2
	Indian	10	6.2
	White	100	62.1
Gender	Male	148	91.9
	Female	13	8.1
Age	20-29 years	7	4.3
	30-39 years	43	26.7
	40-49 years	56	34.8
	50-60 years	55	34.2
Qualification	Masters degree	5	3.1
	Honours degree	14	8.7
	Degree	27	16.8
	Diploma	24	14.9
	Certificate	36	22.3
	Matric	43	26.7
	Other	12	7.5
Years of Experience	1-10 years	25	15.5
	11-20 years	25	15.5
	21-25 years	36	22.4
	26-30 years	61	37.9
	31-40 years	14	8.7
Management level	Senior management	19	11.8
	Middle management	47	29.2
	Supervisor	95	59

According to table 1, the majority of the participants were at the supervisory level (59%); white (62.1%), male (91.9%) and between the ages of 40-49 (56%). The majority of the participants had between 26-30 (61%) years of experience.

The sample distribution roughly reflects the expectations one has of leaders in this sector, i.e. that they are white and predominantly male. Therefore the sample results can be interpreted with a greater degree of confidence as being representative of the broader population of leaders in this organisation.

Measuring instruments

The following questionnaires were used in the empirical study:

A demographic questionnaire was compiled and used in order to gather information relating to the race, gender, age, qualifications, years of experience and job levels (Senior, Middle and Supervisory) of the participants' service in the petrochemical industry.

To measure emotional intelligence the *EQ-i* (Baron, 2006) was used. The *EQ-i* is a self-report inventory comprising 133 declarative statements phrased in the first person singular. Participants are required to indicate the degree to which each statement is true of the way they typically think, feel or act on a 5-point response scale ranging from (1) *very seldom or not true of me* to (5) *very often true of me or true of me*. The items of the *EQ-i* are summed to yield scores on 15 lower order subscales, five higher order composite scales and an overall EI score. High scores indicate a high level of EI (Palmer, Gardner & Stough, 2003). Psychometric analyses of the *EQ-i* reported in the technical manual (Bar-On, 2006) indicated that it has good internal reliability and test-retest reliability. With a South African sample (n=9892) the Cronbach alphas were high for all of the subscales, ranging from .69 (Social Responsibility) to .86 (Self-Regard). The Alpha coefficients were also high for all of the composite scales, ranging from .82 (General Mood and Stress Management) to .92 (Intrapersonal) (Bar-On, 2006). The *EQ-i* was completed online and raw scores were accessed from the test developer.

Leadership styles were measured using the *Multifactor Leadership Questionnaire* (MLQ) (Form 5X) (Bass & Avolio, 1997). Although the multi-rater format was used in this study, only self-ratings of leaders were used. The MLQ Form 5X contains 45 questions using a 5-point scale ranging from (0) not at all to (4) frequently, if not always. It is a 36-item measure of leadership style assessing transformational, transactional and laissez-faire leadership

behaviours. The 9-items that measure leadership outcomes were eliminated for the purpose of this study.

According to the MLQ technical manual (Bass & Riggio, 2006), acceptable internal consistencies of about .80 were reported on all scales. Hartog, Muijen and Koopman (2011) found for a sample of 1200 employees from several diverse organisations (commercial businesses, health-care organisations, welfare institutions and local governments) that the internal consistency of transformational leadership ranged from .72 to .93; transactional leadership ranged from .58 to .78; and laissez-faire leadership was .49.

Ethical research principles

The research is conducted in an ethical manner in order to uphold the principles of the social science approach. Three fundamental guiding ethical principles have been identified. These principles are, respect for participants, beneficence and justice. The principles are based on the protection of basic human rights within the research context. These rights include, the right to self-determination, the right to privacy, the right to anonymity and confidentiality, the right to fair treatment and the right to being protected from discomfort and harm (Brink, Van der Walt, & Van Rensburg, 2007). The ethical guidelines and standards form the basis on which the research is conducted. These considerations form part of every step of the research process and guide the researcher and the study. The following specific ethical guidelines apply.

- (1) The participants are informed of the purpose of the study and provide written consent to participate in the study.
- (2) The participants can choose whether or not to participate in the study and can withdraw at any point for any reason.
- (3) The privacy, confidentiality and anonymity of participants are honoured.

The results from the research are made available to the participants and the researcher strives to maintain objectivity and integrity in the conducting of the research. Ethical clearance and permission to conduct the research was obtained from both the university overseeing the research and the organisation within which the study was conducted.

Statistical analyses

Statistical analyses were carried out by means of the Statistical Package for Social Sciences (SPSS) computer program for Windows version 18.0 (2010). Descriptive statistics were obtained for all dependent and independent variables. Cronbach's alpha was used to determine the internal consistency of the measuring instruments. Pearson product-moment correlations were calculated to assess the direction and strength of the relationships between the variables and the significance level was set at .05. For the purposes of this study, r values larger than .30 were considered to have a medium to large practical effect (Cohen, 1992). Multiple regression analysis was used to determine if EI predicts leadership styles (transformational, transactional, laissez faire). Additionally, ANOVA tests were performed to determine whether individuals from different management levels differed in terms of their emotional intelligence and leadership styles in a petrochemical organisation. A t-test was used to determine if African and White respondents differ in their scores and a non parametric version of the t-test was chosen to examine differences between men and women, due to the inequality in base sizes.

Results

Descriptive statistics and Cronbach Alpha

Descriptive statistics were calculated for both the independent variable (EI) and the dependent variable (leadership styles). Table 2 presents the means, standard deviations, minimum and maximum scores and Cronbach alpha reliability coefficients for the sample of leaders, using the EQ-i and adapted version of the MLQ (Form 5X).

Table 2: Descriptive statistics and Cronbach alphas for EQ-i and MLQ (Form 5X) (n=161)

Scale	M	SD	MIN	MAX	Cronbach's alpha
EQ-i scale					
Total EQ	4.03	.43	2.10	4.82	.96
Intrapersonal Skills(IA)	4.05	.53	2.40	5.00	.93
Interpersonal Skills(IE)	4.01	.50	1.60	4.90	.89
Stress Management(ST)	3.90	.52	1.90	4.80	.83

Adaptability(AD)	4.16	.47	2.00	5.00	.87
General Mood(GM)	4.01	.46	2.00	4.90	.82
MLQ scale					
Transformational(TL)	2.05	.45	.50	3.90	.87
Transactional(TA)	2.05	.45	.50	3.90	.58
Laissez-faire(LF)	.59	.64	.00	3.00	.61

According to Nunnally and Bernstein (2010), Cronbach alpha coefficients of between .5 and .6 are acceptable for basic research purposes, whereas coefficients of .8 and higher are considered to be important or ideal. From the abovementioned table, however, the scale displayed somewhat lower reliability on two dimensions. This does not mean that the instrument did not measure what it intended to do. Clark and Watson (1995) state that there is a misconception that the research goal can only be achieved by demonstrating that a scale shows an acceptable level of internal consistency and reliability, as estimated by alpha scores. The same researchers explained that there are no longer any clear standards regarding what level of reliability is considered to be acceptable (Clark & Watson, 1995).

However, the instruments have maintained an acceptable level of internal consistency, with the coefficients ranging from moderate to high demonstrating reliability (.58 for transactional to .96 for total EQ). The Cronbach's alpha coefficients for each scale were as follows: Total EQ (.96), Intrapersonal Skills (.93), Interpersonal Skills (.89), Stress Management (.83), Adaptability (.87), General Mood (.82), Transformational leadership (.87), Transactional leadership (.58) and the laissez-faire scales (.61). The transactional and laissez-faire scales show lower reliabilities and were investigated using an item analysis, yet could not be improved to yield a Cronbach's alpha over the .7 level, and it was therefore decided to keep these two scales unchanged.

The means and standard deviations of the subscales are also presented in table 2. The MLQ dimensions from lowest to highest were Laissez-faire (M = 2.05, SD = .64); Transformational (M = 2.05, SD = .45) and Transactional (M = 2.05, SD = .45). The table shows that the managers scored the highest on Adaptability (M = 4.16, SD = .47) and the lowest on Stress Management (M = 3.90, SD = .52). The other EQ dimensions scored relatively consistently around the 4 out of 5 level. These were intrapersonal Skills (M =

4.05, SD = .53), General Mood (M=4.01, SD = .52) and Interpersonal Skills (4.01, SD = .50) respectively.

Correlations between EQ (EQ-i) and leadership styles

Correlations were computed between the components of EQ (EQ-i) and leadership styles (MLQ). The correlations are presented in table 3 below. The table also presents the inter-correlations between the dimensions of the same scale (i.e. between the subscales of EQ, and between the subscales of MLQ respectively).

Table 3: Intercorrelations between EQ and constructs with leadership styles

		EQ					Leadership Styles			
		Total EQ	Intra	Inter	ST	AD	GM	TL	TA	LF
Total EQ	R	1	.92***	.84***	.86***	.91***	.89***	.31***	-.07	-.27**
	p-value		.000	.000	.000	.000	.000	.000	.38	.001
INTRA	R		1	.68***	.73***	.84***	.81***	.26**	-.08	-.31***
	p-value			.000	.000	.000	.000	.001	.33	.000
INTER	R			1.00	.60***	.67***	.73***	.27**	.03	-.17*
	p-value				.000	.000	.000	.00	.73	.04
ST	R				1.00	.76***	.67***	.21**	-.19*	-.21**
	p-value					.000	.000	.01	.02	.01
AD	R					1.00	.75***	.30***	-.04	-.29***
	p-value						.000	.000	.58	.000
GM	R						1.00	.33***	-.01	-.20**
	p-value							.000	.86	.01
TL	R							1.00	.19**	-.33***
	p-value								.017	.000
TA	R								1.00	.09
	p-value									.25
LF	R									1.00

	p-value									
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*** $p < .001$ ** $p < .01$ * $p < .05$ (two-tailed)

+++ $r \geq .50$ (large practical effect size) ++ $r \geq .30$ (medium practical effect size) + $r \leq .29$ (small practical effect size)

The table indicates that the subscales of EQ correlate very highly with one another. For example adaptability correlates strongly with intrapersonal skills (EQ ($r = .84$; $p < .001$; large practical effect size). Intrapersonal skills also show a particularly high correlation with GM ($r = .81$; $p < .001$; large practical effect size). While these two examples were highlighted, all the correlations between the subscales of EQ are large ($r > .5$).

Transformational and transactional leadership show small significant correlations with one another ($r = -.19$; $p = .027$; small practical effect size) and while transformational leadership correlates negatively with laissez faire leadership ($r = -.33$; $p < .000$; large practical effect size), there are no significant correlations between transactional and laissez faire leadership ($r = .09$; $p = .25$).

The table above indicates that all of the EQ dimensions correlate significantly with transformational leadership: stress management ($r = .21$; $p = .002$; small practical effect size); total EQ ($r = .31$; $p < .001$; medium practical effect size); adaptability ($r = .30$; $p < .000$; medium practical effect size); general mood ($r = .33$; $p < .001$; medium practical effect size); intrapersonal skills ($r = .26$; $p = .001$; small practical effect size); interpersonal skills ($r = .27$; $p = .001$; small practical effect size).

Positive correlations indicate that the higher a respondent scored on EQ the higher they also score on Transformational leadership. Neither total EQ, nor its dimensions showed any significant relationships with the transactional leadership style, with the exception of a small negative correlation between transactional leadership and stress management ($r = -.19$; $p = .02$; small practical effect size).

Laissez-faire does show a significant relationship with all but one EQ dimension (interpersonal skills), however this time the correlations are negative indicating that the lower respondents score on the laissez faire style, the higher they score on EQ dimension

interpersonal skills . The following correlations were found between EQ and laissez faire: Total EQ ($r = -.27$; $p = .001$; small practical effect size); intrapersonal skills ($r = -.31$; $p < .000$; medium practical effect size); interpersonal skills ($r = -.17$; $p = .04$; small practical effect size), stress management ($r = -.21$; $p = .007$; small practical effect size), adaptability ($r = -.29$; $p < .000$; small practical effect size) and general mood ($r = -.20$; $p = .01$; small practical effect size).

Multiple regression analyses

As part of the general aim of the finding and understanding empirical linkages between emotional intelligence and leadership styles (represented by transformational, transactional and laissez-faire leadership styles), standard multiple regressions were performed.

The high correlations between the EQ dimensions ($r > .7$) indicate the existence of possible multicollinearity. On investigation, VIF statistics showed values of over 4. Although the general rule is that VIF values of under 10 is acceptable, according to Field (2005) if no formal VIF value for determining the presence of multicollinearity exists it is suggested that VIF values exceeding 10 should be regarded as indicators of multicollinearity. However, in weaker models values of above 2.5 may be a cause for concern. The models in this study only explain a very small percentage of the dependent variable and therefore it was decided to only run total EQ as the subdimensions are too closely correlated.

The aim was to understand what predictive value EQ could have on the leadership style of a manager. Therefore two standard multiple regressions (using the enter method) were performed where Transformational and Laissez faire leadership were the dependent variables and Total EQ was the independent variable in each regression. As there is no significant correlation between EQ and Transactional leadership, no regression was run for this MLQ scale.

The table below summarises the results from the two regression analyses.

Table 4: Summary of standard multiple regression analyses: Total EQ (independent variables) and leadership styles (dependent variables) (N=161)

Variables	Unstandardised		Standardised	T	P	F	Adjusted	R
	coefficient	SE B	coefficient					
	B		B				R ²	
1.Transformational Leadership						16.70	.09+++	.31
(Constant)	1.84	.32		5.75	.000			
Total EQi	.32	.08	.31	4.09	.000			
2.Laissez Faire						12.32	.07+++	.27
(Constant)	2.20	.46		4.77	.000			
Total EQi	-.40	.11	-.27	-3.51	.001			

***p ≤ .001 **p ≤ .01 *p ≤ .05

+R² ≤ .12 (small practical effect size) ++R² ≥ .13 ≤ .25 OR .13 ≤ R² ≤ .25 (medium practical effect size) +++R² ≥ .26 (large practical effect size)

Table 4 indicates that the Total EQ explained small practical effect size percentages of variance ($R^2 \leq .12$) in the dependent variable transformational leadership (Cohen, 1992). The F values for transformational leadership were statistically significant ($p \leq .001$), indicating that the regression is significant yet the adjusted R square (.09) indicates that only 8.9 percent of the variance in transformational leadership is explained by the regression model.

Similarly the F value for the regression analysis with laissez- faire leadership as the dependent variable is also significant, yet the adjusted R square is (.07), which also indicates a rather small effect size ($R^2 \leq .12$). Therefore Total EQ only explains 6.6% in the variance of laissez fair leadership.

Tests for significant mean differences between demographic groups

Three demographic variables of importance were selected for further investigation: gender, management level and race.

The gender variable is split 92% males and 8% females. It was therefore decided to use the Mann-Whitney U-test which is a distribution free, non parametric test for comparing the central tendency of two independent samples. It serves as an alternative to the T-test, but without the t-test's limiting assumptions (Cohen, Manion & Morrison, 2007). Table 5 indicates the results from the test for differences between males and females in terms of EQ and MLQ.

Table 5: Significant differences between Gender groups: Mann-Whitney U test

Scale	Females Mean ranking	Males Mean ranking	Mann- Whitney U	Z	Sig. (2-tailed)
Total EQ	65.15	82.39	756.0	-1.278	.20
Intrapersonal Skills(IA)	61.38	82.72	707.0	-1.58	.11
Interpersonal Skills(IE)	71.04	81.88	832.5	-.80	.42
Stress Management(ST)	71.00	81.88	832.0	-.81	.42
Adaptability(AD)	55.12	83.27	625.5	-2.09	.034*
General Mood(GM)	8.08	81.08	95.0	-.07	.94
Transformational(TL)	67.65	82.17	788.5	-1.08	.28
Transactional(TA)	71.69	81.82	841.0	-.75	.45
Laissez-faire(LF)	97.15	79.58	752.0	-1.33	.18

*** $p \leq .001$ ** $p \leq .01$ * $p \leq .05$

The results indicate that men and women differ significantly only on the Adaptability dimension of emotional intelligence ($p = .037$, *Mean rank males = .83, mean rank women = .55*). Women score significantly higher than men for this dimension. There are no other differences between men and women in terms of EQ.

The parametric ANOVA test was used to test the differences between the three management level groups. The results of the test are shown in table 6.

Table 6: Significant differences between management level groups: ANOVA

Scale	Junior Management Mean	Middle Management Mean	Senior Management Mean	F	Asymp. Sig.
Total EQ	4.00	4.07	4.06	.56	.57
Intrapersonal Skills(IA)	3.12	3.12	3.27	.07	.94
Interpersonal Skills(IE)	2.17	1.90	1.79	1.42	.25
Stress Management(ST)	3.86	3.95	3.96	.94	.39
Adaptability(AD)	4.00	4.00	4.04	1.08	.293
General Mood(GM)	4.10	4.23	4.23	.55	.58
Transformational(TL)	4.05	4.08	4.00	.16	.85
Transactional(TA)	3.97	4.11	4.09	1.50	.23
Laissez-faire(LF)	.52	.66	.70	1.08	.34

*** $p \leq .001$ ** $p \leq .01$ * $p \leq .05$

The results indicate that the different management groups did not differ significantly regarding transformational or laissez-faire style of leadership. However there is a significant difference regarding adaptability (Junior *M Rank* = 94.66 ; Middle *M Rank* = 65.46; Senior *M Rank* = 51.13). There does appear to be a linear relationship between management group and transactional leadership, as respondents in the junior group (first line managers/ supervisors) scored significantly higher than respondents in the middle and senior managers categories (Junior *M Rank* = 94.66 ; Middle *M Rank* = 65.46; Senior *M Rank* = 51.13).

A comparison between race groups was only possible between African (n = 49) and white (n = 100) respondents. The other two race groups were considered to have too small base sizes (n = 2 and n = 10 respectively). An independent t-test was used and the results are presented in table 7.

Table 7: Significant differences between race groups: t-test

Scale	African Mean	White Mean	t	Asymp. Sig.
Total EQ	4.13	3.99	1.87	.06
Intrapersonal Skills(IA)	4.18	4.01	1.95	.05
Interpersonal Skills(IE)	4.08	4.00	.94	.35
Stress Management(ST)	4.03	3.86	1.92	.06
Adaptability(AD)	4.17	3.94	2.83	.01**
General Mood(GM)	4.19	4.13	.64	.52
Transformational(TL)	3.22	3.08	1.84	.07
Transactional(TA)	2.08	2.04	.55	.59
Laissez-faire(LF)	.47	.65	-1.52	.13

*** $p \leq .001$ ** $p \leq .01$ * $p \leq .05$

There is a significant difference between African and White leaders yet again on Adaptability ($p = .005$). African respondents show a significantly higher score than White leaders ($M = 4.17$ vs. $M = 3.86$). Generally African leaders scored higher on all EQ scales and Total EQ and Intrapersonal skills are only just outside the set level of statistical significance (i.e just over $p < .05$)

Discussion

This study examined the relationship between overall EI including components and the components of the full range model of leadership: transformational, transactional and laissez faire leadership styles (Bass & Avolio, 1997).

The results indicate that the EQ-i scales have acceptable and high levels of internal consistency; all Cronbach Alpha values are above .8. The MLQ (Form 5X) also has acceptable high levels of internal consistency for transformational leadership and acceptable moderate levels for transactional and laissez faire leadership. Botha (2001) found the MLQ instrument to be a reliable measure of transformational leadership and a poor measure of transactional leadership. This was re-examined and reaffirmed in this study. Overall, both measures were reported reliable within the multi-cultural South African Petrochemical Organisation under study.

Furthermore, significant positive relationships were demonstrated between EI and transformational leadership giving support to H1 (see Barbuto & Burbach, 2006). While some of the correlations are small ($r < .3$) there were a few medium-sized correlations (Total EQ, adaptability and general mood) (Petrides, Frederickson, & Furnham, 2004). Therefore it can be concluded that there is a significant positive relationship between the emotional intelligence (intrapersonal skills, interpersonal skills, adaptability, stress management, general mood) and transformational leadership style. The correlations revealed that the ability to perceive and adapt emotions effectively has a strong relationship with transformational leadership style ($r = .30$). This implies that in the petrochemical organisation, leaders with higher emotional intelligence could possibly predict effective leadership (transformational leadership style (Bass & Avolio, 2004; Gardner et al., 2010) (in support of H4). These findings were in support of, although not as strong as, other research outcomes by Leban (2003) and Piel (2008), with a strong statistically inferred predictive relationship between EI and transformational leadership. Leban's (2003) and Piel's (2008) research strategies used 360-degree review feedback on the leaders compared to the self-report in this research.

In contrast, with the exception of one small correlation with stress management, there was no significant relationship found between EI and transactional leadership (not supporting H2). This may indicate that leaders within this petrochemical organisation who are more technically inclined invest less energy in the focus of exchanges for goal attainment and more in transformational activities (Northouse, 2012).

As anticipated, a negative relationship was found between laissez-faire leadership and overall emotional intelligence, intrapersonal skills; adaptability, stress management and general mood (in support of H3). The sizes of the correlations are medium to small with the largest correlation being between laissez-faire and intrapersonal skills ($-.31$). Thus, there is some support for the fact that those leaders who were absent when required and failed to follow up on requests for assistance (Bass, 1997) were more unlikely to effectively perceive and manage their emotions than those of others in the workplace. This may indicate that leaders within this petrochemical organisation who are able to identify with and express their feelings constructively and confidently, live and work independently and cope effectively with demanding situations, will be less likely to demonstrate absent leadership.

The regression analysis shed more light on the relationship between EQ and leadership styles. Total EQ was used as the independent variable and each of transformational and laissez-faire leadership were in turn the dependent variables. EQ explains 8.9% of the variance in transformational leadership and 6.6% in laissez-faire leadership. While these are relatively small values, the regression models were significant and this lends further evidence for a significant relationship between the variables (Harms & Crede, 2010; Hur et al., 2011).

While the regression analysis does point to many other factors that also play a role in the prediction of leadership, it does show that EI is gaining a strong foothold as a predictor of effective leadership, broadly acclaimed as transformational leadership (Cooper & Sawaf, 1997; Hur et al., 2011). These findings make intuitive sense suggesting that leaders in the petrochemical organisation under study are effective leaders who are both self-aware and aware of their followers' sentiments. They possess high levels of EI and leverage this EI in order to demonstrate strong transformational leadership behaviours.

Based on the results of the current study, leaders' higher skills in emotional intelligence might tend to display a more transformational than laissez-faire leadership style (Avolio et al., 1995; Gardner et al., 2010).

Transformational leadership has been shown to be the preferred leadership style under environmental conditions of constant and rapid change (Tucker & Russell, 2004). For the petrochemical organisation in the study it can be concluded with some statistical certainty that emotional intelligence is a predictor of effective transformational leadership style. First, Stein and Book (2006) have claimed from the review of the work by Bar-On that a person's emotional intelligence is trainable. Leadership research likewise supports the view that transformational leadership is trainable (Barling, Weber, & Kelloway, 1996; Parry & Sinha, 2005). Focused selection and development of leaders' EI skills might be a recommended mechanism to engage in effective transformational behaviours in this petrochemical organisation.

Very few differences were found between the EQ and leadership style scores of different demographic groups. In fact, it is only with regard to adaptability that any differences exist between gender and race groups. This is similar to results reported in Van Rooy et al. (2005) with only two subscales, but not total EI that evidenced a statistically significant effect in

favour of blacks. The results of the present study also imply that as far as leadership style goes females are as transformational in their leadership style as males in the petrochemical organisation (Eagley & Johnson, 1990). Therefore, it can be concluded that this study does not show any support for demographic variables of gender or race as influencing the EQ or leadership style of a respondent. In addition, it appears that progression through the ranks to senior management in the petrochemical organisation does not hinge on what level of EI or leadership style one possesses.

Limitations

This research is not without its limitations. Firstly, the sample consisted of one business unit within the SA Petrochemical Organisation which implies that the results cannot be generalised to the entire population. Secondly, as a result of the cross-sectional survey-based research design, causal factors could not be isolated and attributed to the research findings. Thirdly, the sample size may have affected the results in this study. A larger sample may have provided more information regarding the relationships between emotional intelligence and leadership styles and revealed more insight into demographic differences. Fourthly, in the collection of data the two instruments were not completed at the same time. The MLQ was assessed from an existing database. This may have resulted in weaker correlations. Additionally only self-report measures were utilised. Fifthly, the final limitation is the time and cost involved in the data collection from a large sample.

Recommendations

Future studies should aim to include all the businesses in the South African petrochemical organisation and increase the sample size and demographic representation to ensure a more thorough study that can be more easily generalised. Longitudinal research should be used in future to identify and isolate causal factors, in order to ensure that environmental factors impacting on the data can be isolated and meaningfully incorporated. Data collection for both instruments should be conducted at the same time. Finally, it is suggested that the results of this study should be confirmed by follow-up studies in a variety of contexts in South Africa, because of the apparent absence of specific published works on emotional intelligence and its purported effects on predicting an effective leadership style. Further research clearly needs to be conducted to expand the knowledge about the possible influences or effect emotional

intelligence may have on transformational leadership. For future studies it would be interesting to see differences in leaders' self-perceptions versus those of others and/or to include a multi-rater for the EI as well.

To this end areas for future investigation might include the impact that the emotional intelligence of leaders has on the emotional intelligence of employees and the organisational culture. These areas of study could provide a more complete picture of the emotional dynamics that constitute effective leadership within the South African petrochemical industry. Additionally, future research should combine qualitative, quantitative and triangulation methods in order to facilitate a better understanding of the different variables being studied.

Recommendations for organisational practice

Selected recommendations can be made for the South African petrochemical organisation which might be partly transferred to similar contexts. The organisation should become more aware of the topics of leadership styles and emotional intelligence, the interrelationship of these two concepts and their impact on the organisation and its employees.

Thereby managers should be trained to explore the positive and negative aspects of the various leadership styles and their contextual importance. At the same time, employees should be trained in emotional intelligence to build an awareness of emotional aspects of leadership competences in order to respond to the growing complexity of (international) human resource management.

The organisation should use the research results to adjust and improve organisational training facilities as well as the process of selection and assessment procedures for evaluating leaders' strength within the organisation. This could have a significant impact on constructing strategies for developing an organisational leadership culture that is based on emotional intelligence. Training and mentoring programmes should be adjusted accordingly within the organisation.

Finally, the organisation could use the data to improve managers' strengths and become aware of developmental areas, and at the same time review how executive decisions shape

the behaviour of the organisation as a whole. The vision of the organisation could be redefined accordingly.

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CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter discusses the conclusions and limitations of the study and makes recommendations for future research. The chapter concludes with a summary.

4.1 CONCLUSIONS

This study realised the outlined aims of describing emotional intelligence and leadership styles in a petrochemical organisation. The various scales comprising the Bar-On EQ-i and MLQ (Form 5X) were explained to identify what the questionnaires measured. The literature review provided insight into the effect and outcomes of EI and its dimensions (intrapersonal, interpersonal, adaptability, stress management, and general mood) and focused on the research conducted on EI. This was also done with the leadership styles literature review in which each of the styles (transformational, transactional and laissez-faire) were presented and explained. Extensive research revealed that facets of EI can be enhanced and changes in individual behaviour have resulted from effective EI training programmes. Additionally, EI has been linked to effective leadership skills. In most organisational contexts, transformational as compared to transactional and / or laissez faire leadership is considered a more effective leadership style. Therefore, EI could contribute to the theoretical elaboration of transformational leadership theory and have the potential for improving leader training and selection.

The integration of the two research variables provided some insight into the possible relationship between the effects of EI on leadership styles. The data collected in this study advocated that there is a correlation between the independent and the dependent variables, the results of the intercorrelations showing significance at the $p < 0.01$ level. This suggests that a change in the independent variable (EI) may well result in some change in the dependent variable (leadership styles).

The demographic data served to support certain research findings where gender and race had a small though significant correlation with EI's adaptability dimension, whereas these factors had a negligible correlation with the leadership styles. Conversely management levels had a

small though significant correlation with the transactional leadership style, and had a negligible correlation with the EI and transformational and/ or laissez-faire leadership styles.

The results obtained for the EQ-i indicated that EI was measured at the average level but still correlated significantly with the MLQ (Form 5X) (excluding transactional leadership style) results. This could be interpreted to demonstrate that the higher the managers EI skills, the higher the effective transformational leadership style demonstrated and conversely the lower the laissez-faire leadership style.

The regression results in this study indicated a significant relationship between total EI, and transformational leadership style. Additionally, a significant negative relationship between total EI and the laissez-faire style and was found. This suggests that training efforts focused on enhancing EI would result in more occurrences of the transformational leadership style and less unwanted laissez-faire leadership styles.

The data collected indicated that there is in fact a relationship between the EI dimensions as measured by Bar-On EQ-I and the leadership styles as measured by the MLQ (Form 5X).

The research has shown that the Bar-On EQ-i does, in all probability, form a foundation for EI measurement and, together with its significant correlation with the MLQ (Form 5X), can be used to determine the possible effect of EI on the leadership styles embraced by managers and inform selection and training interventions.

4.2 LIMITATIONS OF THE STUDY

4.2.1 Limitations: the literature review

One of the limitations of this study is the lack of published research relationships between emotional intelligence and perceived leadership style. It appears to be more plentiful internationally, although very scarce in the context of South Africa and non-existent in its petrochemical industry. This hampered the researcher's efforts to find more recent and directly applicable data. Additionally, there appears to be a deficiency in apparent research on the relationships between emotional intelligence and leadership styles in terms of biographical variables such as gender, management level and race.

One of the main limitations of the literature review was that there has been limited research conducted and reported on the EI tool used in this study, specifically in the context relevant to this study.

4.2.2 Limitations: the empirical study

This research is not without its limitations. Firstly, the sample consisted of one business unit within the SA Petrochemical Organisation which implies the results cannot be generalised to the entire population. Secondly, as a result of the cross-sectional survey-based research design, causal factors could not be isolated and attributed to the research findings. Thirdly, the sample size may have affected the results in this study. A larger sample may have provided more information regarding the relationships between emotional intelligence and leadership styles and revealed more insight into the demographic differences. Fourthly, in the collection of data the two instruments were not completed at the same time. The MLQ was assessed from an existing database. This may have resulted in weaker correlations. Additionally self-report measures were utilised. Fifthly, the final limitation is the time and cost involved in the data collection of large numbers.

4.3 RECOMMENDATIONS

In the light of the aforementioned conclusions and limitations, the following recommendations can be made.

Future studies should aim to include all the businesses in the SA Petrochemical Organisation and increase the sample size and demographic representation to ensure a more thorough study that can be more easily generalised. Longitudinal research should be used in future to identify and isolate causal factors, in order to ensure that environmental factors impacting on the data can be isolated and be meaningfully incorporated. Data collection for both instruments should be conducted at the same time. Finally, it is suggested that the results of this study be confirmed by follow-up studies in a variety of contexts in South Africa, because of the apparent absence of specific published works on emotional intelligence and its purported effects on predicting an effective leadership style. Further research clearly needs to be conducted to expand the knowledge about the possible influences or effect emotional intelligence may have on transformational leadership. For future studies it would be

interesting to see differences in leaders self perceptions verses those of others and/or to include a multi rater for the EI as well.

To this end some areas for future investigation might include the impact emotional intelligence of leaders has on the emotional intelligence of employees and the organisational culture. These areas of study could provide a more complete picture of the emotional dynamics that constitute effective leadership within SA petrochemical industries. Additionally, future research should also combine qualitative, quantitative and triangulation methods in order to facilitate a better understanding of the different variables being studied. De Vos, Strydom, Fouché and Delport (2003) indicated that this would assist researchers to use multiple measures for the same phenomena. By measuring something in more than one way, they are more likely to see all aspects of it (De Vos *et al.*, 2003).

Selected recommendations can be made for the South African petrochemical organisation which might be partly transferred to similar contexts. The organisation should become more aware of the topics of leadership styles and emotional intelligence, the interrelationship of these two concepts and their impact on the organisation and its employees.

Thereby managers should be trained to explore the positive and negative aspects of the various leadership styles and their contextual importance. At the same time, employees should be trained in emotional intelligence to build an awareness of emotional aspects of leadership competences in order to respond to the growing complexity of (international) human resource management.

The organisation should use the research results to adjust and improve organisational training facilities as well as the process of selection and assessment procedures for evaluating leaders' strength within the organisation. This could have a significant impact on constructing strategies for developing an organisational leadership culture that is based on emotional intelligence. Training and mentoring programmes should be adjusted accordingly within the organisation.

Finally, the organisation could use the data to improve managers' strengths and become aware of developmental areas, and at the same time review how executive decisions shape

the behaviour of the organisation as a whole. The vision of the organisation could be redefined accordingly.

4.5 CHAPTER SUMMARY

This chapter discussed the conclusions of both the theoretical and empirical studies. Possible limitations of the study were also discussed. The recommendations for future research exploring the relationship between emotional intelligence and leadership styles were discussed. The chapter concluded by presenting an integration of the research. The extent to which the study's results provide support for the existence of a relationship between emotional intelligence and leadership styles was emphasised.

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