THE EFFECT OF CORE ETHICAL VALUES ON ETHICAL LEADERSHIP, ORGANISATIONAL JUSTICE, ETHICAL CLIMATE AND LEADER EFFECTIVENESS

By

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DECLARATION

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ABSTRACT

This study arose from a high need to determine the factors contributing to leader effectiveness in South African organisations by identifying the determinants thereof. The purpose of the study furthermore was to identify the determinants of unethical and counterproductive behaviours in the workplace. There is a belief that leaders should set aside ethical standards to succeed in the rough-and-tumble world of business. In contrast, evidence has revealed that ethical leaders can frequently be seen as more effective in organisations.

Since the purpose of this study was to examine factors contributing to perceived leader effectiveness within South African organisations, the relationship between perceived effective leadership, ethical climate, organisational justice, ethical leadership and core ethical values was investigated. The aim was to provide further theoretical and empirical evidence that effective ethical leadership can be realised through instilling an ethical organisational climate in which integrity, altruism and fairness are exhibited and encouraged.

A theoretical model was developed to explain the structural relationships between the latent variables and effective leadership within organisations. Substantive hypotheses were formulated in order to determine the validity of the propositions made in the literature review, with the objective of testing the proposed ethical climate structural model.

The sample was selected from of employees of a large retail company mainly situated in the Western Cape but with branches all over South Africa and in the rest of Africa. The selection consisted of 224 first-line and middle management employees. Each of the respondents completed the Leader Effectiveness Questionnaire (LEQ), the Ethical Climate Scale (ECS), the Justice Scale, the Leadership of Ethics Scale (LES), the Revised Behavioural Integrity Scale (BIS-R) and Langley's Value Scale.

The hypotheses and the structural model were empirically tested using various statistical methods. Reliability analysis was completed on all the measurement scales and satisfactory reliability was found. The content and structure of the measured constructs were examined by means of confirmatory factor analysis and the results indicated that good fit was achieved for all the refined measurement models. Structural Equation Modelling (SEM) was subsequently used to determine the extent to which the conceptual model fitted the data obtained from the sample and to test the relationships between the constructs. The results revealed that integrity and altruism have a direct and positive influence on ethical leadership. Support furthermore was found for the influence of ethical climate on leader effectiveness. The results however indicated that support could not be found for the relationship between

organisational justice and leader effectiveness. Conversely, it was found that ethical leadership has a direct and positive influence on leader effectiveness. In addition, organisational justice also exhibited a positive influence on ethical climate. On the other hand, ethical leadership did not have a positive influence on ethical climate. Finally, support was found for the influence of ethical leadership on organisational justice.

Final conclusions were drawn from the results obtained and recommendations for future research are made.

OPSOMMING

Hierdie studie het ontstaan uit ‘n dringende behoefte om die faktore wat bydra tot leier-doeltreffendheid in Suid-Afrikaanse organisasies te bepaal, deur die determinante daarvan te identifiseer. Verder was die doel van die studie om die determinante van onetiese en teenproduktiewe gedrag in die werkplek te identifiseer. Daar is ’n bewering dat leiers hul etiese standaarde eenkant toe moet skuif om in die hedendaagse besigheidswêreld suksesvol te wees. In teendeel is dit egter bewys dat etiese leiers in organisasies dikwels as meer effektief beskou kan word.

Met die doel van hierdie studie om die faktore te bestudeer wat bydra tot waargenome leier doeltreffendheid in Suid-Afrikaanse organisasies, is die verwantskap tussen waargenome leier doeltreffendheid, etiese klimaat, organisatoriese geregtigheid, etiese leierskap en kern etiese waardes in hierdie studie ondersoek. Die studie het gepoog om addisionele teoretiese en empiriese bewyse te lewer dat etiese leiers die persepsie van doeltreffende leierskap indirek kan beïnvloed deur die skep van ‘n etiese organisasieklimaat waarin integriteit, altruisme en billikheid ten toon gestel en bevorder word.

‘n Teoretiese model is ontwikkel om die strukturele verwantskappe tussen die latente veranderlikes en doeltreffende leierskap in organisasies te verklaar. Substantiewe hypotheses is geformuleer om sodoende die geldigheid van die voorspellings uit die literatuurstudie te bepaal. Die doel hiervan was om die voorgestelde etiese klimaat strukturele model te toets.

Die steekproef het bestaan uit werknemers van ‘n groot kleinhandel maatskappy wat hoofsaaklik in die Wes-Kaap geleë is, maar takke regoor Suid-Afrika en in die res van Afrika het. Die steekproef is saamgestel uit 224 eerste-vlak en middel-bestuur werknemers. Elke respondent het die *Leader Effectiveness Questionnaire* (LEQ), *die Ethical Climate Scale* (ECS), die *Organisational Justice Scale*, die *Leader of Ethics Scale* (LES), die Revised *Behavioural Integrity Survey* (BIS-R) en die *Altruism Scale* ingevul.

Die hipoteses en die strukturele model is empiries getoets met behulp van verskeie statistiese metodes. Betroubaarheidanalise is op al die metingskale uitgevoer en bevredigende betroubaarheid is gevind. Die inhoud en struktuur van die gemete konstrukte is deur middel van bevestigende faktor-ontledings ondersoek en die resultate het aangedui dat integriteit en altruisme ‘n direkte en positiewe invloed op etiese leierskap het. Ondersteuning is ook gevind vir die invloed van etiese klimaat op leier doeltreffendheid. Die resultate het egter aangedui dat ondersteuning nie vir die verband tussen organisatoriese geregtigheid en leier doeltreffendheid nie gevind kon word. Daarteenoor is daar gevind dat

etiese leierskap ‘n direkte en positiewe invloed op leier doeltreffendheid het. Boonop het organisatoriese geregtigheid ook ‘n positiewe invloed op etiese klimaat getoon. Daarteenoor het etiese leierskap nie ‘n positiewe invloed op etiese klimaat gehad nie. Laastens is ondersteuning gevind vir die invloed wat etiese leierskap op organisatoriese geregtigheid het.

Finale gevolgtrekkings is afgelei van die resultate wat verkry is en aanbevelings is vir toekomstige navorsing gemaak.

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CHAPTER 1: INTRODUCTION

1.1 THE CONTEXT OF THE STUDY

Daily reports by organisations of mismanagement and unethical actions by employees have been recorded since the 1990s. Feedback from a survey revealed that 48% of employees confirmed unethical action at work. In addition, ethical conduct by employees has received extensive attention in the world of work (Lloyd & May, 2010).

According to Van Zyl (2012), South African organisations are characterised by accelerated crime, lawlessness, and the disruption of the social fibre of its communities. President Zuma (as cited in Van Zyl, 2012), has furthermore asserted that unethical behaviour has seeped into every sector of the South African society. The South African business world, in particular, has been confronted increasingly about a lack of clearly-established ethical norms in their practices. As indicated by disturbing crime statistics, concern about unethical behaviour in South African businesses is of paramount relevance. According to case reports from the South African Police Service (SAPS, 2012), 3608,700 serious crime cases were registered in South Africa for the 2011/2012 financial year (1 April 2011 – 31 March 2012). This total includes 30 900 cases resulting from murder, 127 500 from sexual offences, 29 400 cases of attempted murder, 380 800 cases of assault with the intent to inflict grievous bodily harm, 359 100 cases of common assault, 200 100 cases of robbery with aggravating circumstances, 104 700 cases of common robbery, 1 059 800 cases of property crime, 485 400 cases of burglary, 61 200 cases of stock theft. Van Zyl and Boshoff (2010) reported the following crime statistics for the financial year 2009/2010: 84 842 cases of commercial crimes/white collar crime, 88 634 cases of shoplifting, 13 902 cases of carjacking, 18 786 cases of robbery at residential premises, and 14 534 cases of robbery at business premises.

South Africa has furthermore been placed low in Transparency International's 2010 Corruption perceptions index, being ranked 54 out of 178 countries listed. For the 2010/2011 financial year, the Auditor-General uncovered R26.4bn in unauthorised, irregular and fruitless expenditure in reviewing the activities of SA government departments in the public sector (De Lange, 2011). Despite legislation on tenders in the government, 34% of all government departments awarded contracts to officials and their close family members. Three national departments and their provincial equivalents (Health, Education and Public Works) accounted for 70% of all state expenditure and failed to achieve a clean audit among them. Regardless of a number of initiatives to restrain corrupt practices in government departments in the public sector, it is evident that corruption has increased (Naidoo, 2012).

Boshoff and Van Zyl (2011) argue that mergers, takeovers, diversification, divestitures, deregulations, and the pressure of international competition have augmented the vulnerability of ethics in companies in nearly every industry. Additionally, there has been a national, as well as an international drop in the level of ethical behaviour in organisations. Crime has occurred in one out of every two organisations on an international level for the period 2005 to 2007 (Boshoff & Van Zyl, 2011; PricewaterhouseCoopers, 2007). PricewaterhouseCoopers conducted a worldwide crime survey in 40 countries between April and July 2007. They discovered that 72% of organisations in South Africa indicated that they had been victims of crime during the previous two years, compared to the 43% worldwide.

Rabl and Kühlmann (as cited in Boshoff & Van Zyl, 2011) confirmed that corruption is a serious universal problem, in both the political arena and business sector. South Africa is no exception in this regard, as De Koker (2007, p. 37) affirmed that crime has reached unacceptable levels in South Africa. South Africa is also regarded as the country with the highest rate of white-collar crime worldwide, with an average of 23 cases of fraud per year reported for 2006 and 2007, and with an average loss of income of R7,4 million for that period (Boshoff & Van Zyl, 2011). Moerdyk (2006) proclaimed that complaints received by the SAPS constituted only 20 percent of the actual incidents of white-collar crime (Van Zyl & Boshoff, 2010). The available figures can therefore be multiplied five-fold to reflect the true situation of commercial crime in South Africa (Van Zyl & Boshoff, 2010).

As De Koker (2007) indicated, fraud and unethical behaviour are a reality in South African public and private companies. The prevalence of white-collar crime and unethical behaviour within public and private companies, linked with the current disclosures of major fraud in private organisations, accentuate the problem that the country is currently facing (Boshoff & Van Zyl, 2011). Something should be done to improve the situation. The negative consequences that unethical behaviour holds for individuals, organisations and the South African economy necessitate a focus on the factors that may have an influence on ethical behaviour (Boshoff & Van Zyl, 2011).

Ethics and morality are fundamental aspects of human life, and govern choices between right and wrong. Even though official laws are implemented, society is in great danger of relapsing into a state of chaos if ethics are absent (Esterhuyse, 1991; Van Zyl & Boshoff, 2010). Van Zyl (2012) asserted that the lack of moral awareness in businesses in developing countries (hence, also in South Africa) can be attributed to the fact that many businesses struggle for survival in the current South African economy and cannot afford morality. Van Zyl and Lazenby (2002) and Van Zyl and Boshoff (2010) furthermore propose that, in contrast with American and European companies, relatively few South African organisations

have an ethical framework for conducting business. Even though most employees have a faulty perception of the importance of ethical behaviour in organisations, morality and ethics are rarely discussed, except in times of crisis. It has become clear that the majority of South African organisations do not attempt to create an ethical culture (Van Zyl & Boshoff, 2010).

Employees who are unethical at work will impede organisations that attempt to become globally competitive. Ethics in the life of transitional economies is seen as a delusion rather than the reality. However, ethical behaviour is becoming more important, with organisations beginning to realise its significance (Lloyd & May, 2010). It has been acknowledged that organisations that aspire to improve their profitability need to incorporate ethics in their decisions. A study conducted by the Du Paul University during 1999 found that organisations that were openly committed to following an ethical code provided more than twice the value to shareholders compared to organisations that did not. Furthermore, it was found that 47 organisations that had an extensive commitment to ethics indicated that their market value added (MVA) was larger by an average of $10.6 billion, or approximately three times the MVA of organisations without similar commitments (Lloyd & May, 2010). A South African survey in the IT sector found that 65% of respondents believed that an organisation can earn a profit in the long term by being ethical. Rossouw (as cited in Lloyd & May, 2010) recommends that preventing corporate moral failure requires a total transformation of the organisation's ethical environment. Such findings emphasise the importance of an ethical organisation. The entire organisation's role in establishing an ethical organisation is critical to its success (Lloyd & May, 2010)

An organisation's leadership, however, is seen as the most critical element in creating, establishing and maintaining an ethical organisation. To establish an ethical environment, ethical behaviour should therefore begin with the leaders within the organisation, as integrity, or the lack of it, flows from the top down (Emiliani, 2000; Lloyd & May, 2010). According to a Deloitte & Touche survey (as cited in Lloyd & May, 2010) leaders in the organisation play a pivotal role in setting the climate, whether ethical or unethical. According to research reported by Gottlieb and Sanzgiri (as cited by Lloyd & May, 2010), 75% of 8000 respondents agreed that the organisation's leader plays the most significant role in establishing ethical standards for the organisation. It has been suggested that the leader should contribute to and drive the formulation of the ethical policy; communicate the ethical code of conduct; and lead by example with regard to ethical management. It became apparent from Lloyd & May's (2010) study that CEOs are seen as the lead individuals in implementing ethics in the organisation, but the leadership role should also be supported by the Human Resource manager in the organisation (Lloyd & May, 2010).

In addition, Naidoo (2012) asserts that effective leadership can minimise cases of corruption in the SA public sector. Effective leadership provides a predominant sense of direction and vision; an alignment with the environment; a healthy mechanism for innovation and creativity; and a resource for invigorating the organisational culture. Unethical leadership in the SA public service includes corruption; lack of responsiveness to the needs of clients; tardiness in the discharge of duties; and manifestations of inefficiency and ineffectiveness (Mafunisa 2008; Naidoo, 2012). Unethical behaviour often starts at the top of the public sector, where public sector values are not personified and promoted. This can be ascribed to the lack of accountability; lack of transparency; and lack of responsibility. It has been suggested that effectiveness and efficiency in the SA public sector can be effected by placing greater emphasis on accountability, responsibility and transparency and adhering to rules and procedures, (Mafunisa, 2008; Naidoo, 2012).

The rapidly changing business environment consequently makes leadership in organisations more important than ever before (Boonzaier, 2008). Leaders are seen as the drivers of change and are therefore responsible for organisational success in a changing environment (Boonzaier, 2008; Naidu & Van der Walt, 2005). The leaders of the organisation should thus ensure that all employees are working towards the achievement of the same goals (Boonzaier, 2008).

1.2 RATIONALE FOR THE STUDY

Continuous ethical misconduct in today's world of work results in astronomic financial losses to organisations on an annual basis. The increasing prevalence of theft, sabotage and other deviant behaviours in the workplace has disastrous effects for organisations, such as decreased productivity; increased costs; inefficient work; and the organisation's deteriorating status and reputation (Nasir & Bashir, 2012). In response to the prevalence of ethical dilemmas in organisations, one should examine various avenues in an attempt to find a solution to the ethical issues in businesses. It has been suggested that, unless we devote more attention to understanding what drives the leadership of organisations to behave in ways that violate ethical and legal business standards, attempts to avert future misconduct in organisations may be mere speculation. The dysfunctional consequences of unethical and counterproductive work behaviour consequently raises questions about why deviant behaviour occurs in organisations and what role effective organisational leaders can play in managing this behaviour. This raises the need to explore the emerging enquiry concerning the role effective leader's play in shaping ethical employee behaviour (Appelbaum & Shapiro, 2006; Brown, Treviño & Harrison, 2005; Nasir & Bashir, 2012).

It has been suggested that inappropriate behaviour should not be ascribed to the fact that some employees are less ethical than others only, but rather to the leader's lack of attention to the development of ethical behaviour in the organisation (Gasparksi, 2005; Rok, 2009). Unethical behaviour can furthermore be a result of the complex interaction between the person and environment in which the individuals' casual reasoning about the environment and expected outcomes drives the individual's behaviour (Martinko, Gundlach & Douglas, 2002; Nasir & Bashir, 2012; Yukl, 2010). It could be assumed that even employees with questionable reputations could behave more ethically in an environment where the leaders inculcated operational ethical infrastructure to control such employee's deviant behavioural tendencies (Gasparksi, 2005; Rok, 2009). In an organisation where the leaders implement ethical values and practices, employees would feel less pressured to compromise the organisation's standards. Such environments affect a broad range of decisions as they are deeply embedded in the characteristics of an organisation (Buckley, Beu, Dwight, Howard, Berkson, Mobbs & Ferris, 2001). Employees in such an organisation will ultimately feel engaged and committed to the organisation. Leaders should therefore place greater emphasis on the development of business environments where ethics is valued and exhibited.

An effective leader has a responsibility to create and develop such an environment in which followers can be productive (Ciulla, 2000). This includes environments in which organisational justice is central. Employees expect to be treated fairly and justly in all aspects of their work. The costs of perceived unfair employee treatment can be extremely high. Even though the cost of unfair employee treatment is difficult to compute; employees' perceptions of inequitable treatment are strong predictors of employee misconduct such as job absenteeism and turnover. The costly results of the unfair treatment of employees may also include lower production, lower morale, lack of cooperation, spreading dissatisfaction to co-workers, fewer suggestions and less self-confidence (Grobler, Wärnich, Carrell, Elbert & Hatfield, 2006), while fair treatment of employees may contribute to a leader's ability to gain voluntary compliance and support for decisions which can contribute to follower's perceptions of the leader's effectiveness (Brown *et al.,* 2005).

Ciulla (1995) furthermore argued that a successful leader is both an ethical and an effective leader. To determine whether ethical leaders can be seen as effective, it is essential to ask whether the leader contributes to the development of his/her employee's lives as a whole. Leaders represent significant others in the organisation and often have their behaviour modelled by employees (Yukl, 2010). Organisational leaders should hence be central sources of ethical behaviour because employees look to them for direction (Brown *et al.,*

2005). Leaders must demonstrate the highest moral values such as integrity and altruism in their everyday talk, actions, decisions, and behaviours so that employees in their organisations can follow suit.

With organisations facing ethical issues on a daily basis and the urgency of day-to-day organisational performance, it could be assumed that organisational leaders devote less time and attention to ethical decision making (Laratta, 2009; Sims, 1992). Empirical research examining ethical employee behaviour can provide organisational leaders with insight into employees' minds in order to minimise unethical behaviour (Borchert, 2011). Effective ethical leaders consequently have a considerable influence on the ethical behaviour of employees (Bass & Steidlmeier, 1999; De Hoogh & Den Hartog, 2008; Eisenbeiss, 2012; Kalshoven, Den Hartog & De Hoogh, 2011; Kanungo & Mendonca, 1996; Malan & Smit, 2001; McDonald, 2009; Van Aswegen & Engelbrecht, 2009; Yukl, 2013; Zhu, Avolio, Riggio & Sosik, 2011;).

1.3 RESEARCH INITIATING QUESTION

Given the introductory argument unfolded above, the question that initiated this research concerned:

Why is there variance in employee ethical behaviour, do characteristics and behaviour of leaders play a role in delivering employee ethical behaviour and how?

1.4 RESEARCH OBJECTIVE

Ethical climate is not a random event, but rather an expression of the lawful working of a complex network of interacting person-centred and situational latent variables. To identify the factors contributing to the ethical climate of an organisation a thorough diagnostic evaluation of all the influential fundamentals is required. The specific objectives of this study consequently were:

- To expand the explanatory structural model that elucidates the major determinants of ethical employee behaviour;
- To test the absolute fit of both the measurement and structural models;
- To evaluate the significance of the hypothesised paths in the model;
- To investigate the modification of the structural model;
- To provide recommendations for further research;
- To provide practical implications for the Human Resource Profession.

1.5 OVERVIEW OF THE STUDY

Chapter 1 provides a contextual background for investigating the relationship between ethical leader values, ethical leadership, organisational justice, ethical climate and leader effectiveness in terms of the importance of these constructs and the value it can bring to the organisation. The chapter also offers an outline of the rationale for the study, the research-initiating question and objectives of this study.

Chapter 2 presents a comprehensive review of the literature, with the main concepts of the study being discussed in detail. Definitions for leader effectiveness, ethical climate, organisational justice, ethical leadership and core ethical values (i.e. integrity and altruism) are elaborated on. The chapter proceeds to the hypothesised relationships between the constructs and concludes with the construction of a theoretical structural model developed on the basis of the literature presented in the chapter.

Chapter 3 outlines the research methodology. This entails a comprehensive description of the research design, the hypotheses, the sample and the data collection procedure. The choice of measuring instrument for each of the variables considered in the study is described. Furthermore, the statistical analyses used to analyse the data are discussed.

Chapter 4 presents the research results. The main findings of the study are presented in this chapter. The data analysis is discussed in detail, as are the results of the analyses and testing of the proposed hypotheses.

The final chapter, Chapter 5, discusses the general conclusions drawn from the research. The research results of the hypotheses are interpreted and discussed, the limitations are addressed and suggestions for future research are made. Finally, managerial implications and concluding remarks are presented.

CHAPTER 2: LITERATURE STUDY

2.1 INTRODUCTION

Chapter 1 stressed the importance of the significant influence effective ethical leaders can have on ethical employee behaviour by instilling ethical organisational cultures. The relationship between leaders and followers hence is under investigation in this chapter. The extent to which effective leaders contribute to the development of an ethical climate will be critically assessed (Kidwell & Martin, 2005; Van Aswegen & Engelbrecht, 2009).

Additionally a parallel will be drawn between fair employee treatment (i.e., organisational justice) and the perceived ethical climate of organisations. Employees' perceptions of fair treatment can be seen to influence their work performance as well as their motivation to behave ethically (Buckley *et al*., 2001; Kanungo & Mendonca, 1996). The extent to which leaders should assume responsibility for fair and equitable treatment of all employees is also examined (Northouse, 2001; Tatum, Eberlin, Kottraba & Bradberry, 2003). Consequently employees' perceptions of the leader's effectiveness, the organisation's ethical climate, perceived organisational justice, and ultimately their perception of the ethical leadership in the organisation are under investigation in this chapter. Specific reference is also made to the influence a leader's levels of integrity and altruism have on the ethical leadership within organisations (Engelbrecht, van Aswegen & Theron, 2005; Van Aswegen & Engelbrecht, 2009).

This chapter provides a review of the literature that deals with the constructs in this study. Each construct is discussed in terms of its definition. This chapter concludes by presenting the theoretical structural model through hypothesising the specific causal relationships between the latent variables of ethical leader values (i.e. integrity and altruism), ethical leadership, organisational justice, ethical climate and leader effectiveness.

2.2 THE DEFINITION OF LEADER EFFECTIVENESS

Effective leadership is imperative to all organisations (Boonzaier, 2008; Densten, 2003). In effect, the main reason for studying leadership is to determine effective leadership (Boonzaier, 2008; Engelbrecht, 2002). Leadership effectiveness can be seen as the successful exercise of personal influence by one or more people that result in accomplishing organisational objectives congruent with the organisation's mission while earning the general approval of its stakeholders (Cooper & Nirenberg, 2012).

Bennis and Nanus (as cited in Harshman & Harshman, 2008) studied the question why some individuals are successful – even outstanding – as leaders, while others fall short. In studying the approaches to identifying successful leaders, the authors investigated various efforts that resulted in insights leading to understanding the process of leadership, as well as the traits and behaviours of leaders. In light of the apparent failure in understanding the nature and key variables of leadership, one needs to look at the problem from different perspectives. On the difficulty of defining effectiveness across a range of situations and people, Naddaff stated (as cited in Harshman & Harshman, 2008):

> ...we cannot create a single leadership profile that will determine individual leader effectiveness. We can only create a profile that reflects the desired organisational leadership culture, and possibly a role requirements profile for a specific leadership role. Beyond that, it becomes a coaching discovery process to assess what an individual leader needs to do in order to bring about a successful outcome given his or her business environment and resources. If we are able to accomplish this, then we will be able to define more clearly what leadership behaviours are the sole means to achieve success and, conversely, the areas in which individual style should be encouraged and demonstrated. (Harshman & Harshman, 2008, pp. 3-4)

Leadership effectiveness is essential to success in any organisation. It could be said that a leader's effectiveness depends primarily on the outcomes and consequences for followers and the organisation of the leader's behaviours (Sadeghi & Pihie, 2012; Yukl, 2013). In other words, the extent to which the organisation achieves its goals and performs its task is seen as the most general measures of leadership effectiveness (Erkutlu, 2008; Sadeghi & Pihie, 2012). Effective leaders should be capable of engaging followers fully in the organisational strategies. For leaders to be seen as effective requires good relationships with followers as these relationships would enhance followers' wellbeing and work performance. In addition, these relationships may possibly connect followers to their group more closely through loyalty, gratefulness, and a sense of inclusion (Hogg, Martin, Epitropaki, Mankad, Svensson & Weeden, 2005; Sadeghi & Pihie, 2012).

Sadeghi and Pihie (2012) proclaim that transformational leaders ought to be more effective than other leaders due to their close relationship with followers. They assert that leaders with transformational leadership behaviour can direct their organisation towards effectiveness and productivity. Effective leaders can be seen to motivate followers toward exerting extra effort, increasing followers' job satisfaction; improving their performance beyond expectation; increasing followers' perceived leader effectiveness; and cultivating creativity and innovation in organisations (Bass & Avolio, 1994; Sadeghi & Pihie, 2012; Spinello, 2006; Zaidatol

Akmalih, Sdeghi & Habibah, 2011). In addition both Burns' (1978) and Bass's (1985) theories of transformational leadership regard effective leaders as those who cause followers to identify with the goals articulated by the leaders (Judge & Piccolo, 2004).

According to Malan and Smit (2001) the secret of good leadership is to channel positive mental energy into behaviour that satisfies both the employee's personal needs and those of the organisation within the boundaries set by the organisation's values (Van Zyl, 2012). Successful leaders are capable of changing followers' basic values, beliefs and attitudes while helping them perform above the organisation's minimum standards (Boonzaier, 2008; Podsakoff, MacKenzie & Brommer, 1996). Leaders should use their own behaviour to influence and change their followers' behaviour. This could be done by stimulating their followers' higher-order needs and encouraging them to go beyond their own self-interest for the benefit of the company (Boonzaier, 2008; Densten, 2003; Podsakoff *et al*., 1996).

According to Yukl (2013), there are 10 most fundamental leadership functions for enhancing collective work in teams and organisations:

1. Effective leaders assist employees in interpreting the meaning and relevancy of events and to identify emerging threats and opportunities.
2. Effective leaders help to create alignment on objectives and strategies.
3. Effective leaders build task commitment, enthusiasm and optimism.
4. Effective leaders foster mutual respect, trust and cooperation.
5. Effective leaders strengthen a collective identity for their group or organisation by creating a unique identity and resolving issues of membership in consistency with this identity.
6. Effective leaders help employees to organise, perform and coordinate activities efficiently.
7. Effective leaders encourage and facilitate collective learning and innovation.
8. Effective leaders promote and defend unit interests and help to obtain necessary resources and support.
9. Effective leaders develop employees' skills and empower them to become change agents and leaders themselves.
10. Effective leaders set an example of moral behaviour, and take necessary actions to promote social justice (Yukl, 2013).

As in the case of definitions of leadership, conceptions of leader effectiveness may differ from one writer to another. The criteria selected to evaluate leadership effectiveness represents a researcher's explicit or implicit understanding of leadership (Yukl, 2013). Most researchers appraise leadership effectiveness in terms of the consequences of influence on

a single individual, a team or group, or an organisation (Yukl, 2013). The extent to which the performance of the team or organisational unit is enhanced and the attainment of the goals is facilitated can be seen as the most commonly used measure of leader effectiveness. Objective measures of performance include sales, net profits, profit margin, market share, return on investment, return on assets, productivity, cost per unit of output, costs in relation to budgeted expenditures, and change in the value of corporate stock. Conversely, ratings obtained from the leader's superiors, peers or subordinates can be seen as subjective measures of effectiveness (Yukl, 2013).

A leader's confidence has been identified as a key trait of effective leadership that encourages respect, admiration, commitment, and confidence among followers (Densten, 2003). These conditions are resultant of the interpersonal follower evaluations of their leaders which can essentially legitimise the authority of leaders to exert influence. Leaders can use this influence to acquire their follower's acceptance of new ideas and to transform follower's values, attitudes and behaviours. Resultantly followers understanding of their leader's effectiveness represent current performance and environmental feedback which leaders can use to their own advantage (Densten, 2003).

Densten (2003) suggested that leader effectiveness is a function of leader reputation and followers' satisfaction with the behaviours and activities of their leaders. He furthermore proclaimed that leader effectiveness is influenced by impression management and image building by leaders by means of inspirational motivation. Such actions are bound to increase follower trust and confidence in their leader, which enhances their perception of the leader's expertise and competence and increases the recognition of their leader's effectiveness (Densten, 2003).

Actions that supervisors can undertake to be effective leaders can be organised into three clusters: task-oriented actions (i.e. performance or initiating structure); people-oriented actions (i.e. maintenance or consideration); and ethical actions (i.e. moral character) (Hui, Chiu, Yu, Cheng & Tse, 2007). Examples of performance actions include making timely decisions; motivating employees; giving directions; drawing up plans; and meeting deadlines. Maintenance actions comprise respecting the decisions of subordinates; resolving conflicts; listening to views of subordinates; helping subordinates to achieve organisational and sometimes personal goals; and being supportive when subordinates encounter work problems (Hui *et al.,* 2007). Moral character – or ethical leadership – includes the supervisor's fairness and trust-building behaviour. Various studies have demonstrated that such effective leadership behaviour is associated with the quality of work of subordinates in

organisations. Leaders who develop a good relationship with their subordinates will resultantly influence their subordinates' level of discretionary behaviour (Hui *et al.,* 2007).

Another indicator of leader effectiveness is follower attitudes and perceptions of the leader. Yukl (2013, p. 28) posed the following questions to determine followers' attitudes and perceptions of their leader:

How well does the leader satisfy their needs and expectations? Do followers respect and admire the leader? Do followers trust the leader and perceive him or her to have high integrity? Are followers strongly committed to carrying out the leader's requests, or will they resist, ignore, or subvert them? Does the leader improve the quality of work life, build the self-confidence of followers, increase their skills, and contribute to their psychological growth and development?' (Yukl, 2013)

Leader effectiveness, furthermore, is occasionally measured in terms of the leader's contribution to the quality of group processes, as perceived by followers or by outside observers (Yukl, 2013). An effective leader should enhance group cohesiveness; member cooperation; member commitment; and member confidence that the group can achieve its objectives. It could be asked if the leader enhances problem solving and decision making by the group and helps to resolve disagreements and conflicts in a constructive way (Yukl, 2013). In addition, does the leader contribute to the efficiency of role specialisation; the organisation of activities; the accumulation of resources; and the readiness of the group to deal with change and crises? A final criterion for leadership effectiveness is the extent to which a person has a successful career as a leader. The following questions could be asked to determine the leader's career success (Yukl, 2013, 28): 'Does the leader get promoted rapidly to positions of higher authority? Does the person serves a full term in a leadership position, or is he or she removed or forced to resign?'

There is no simple resolution to the evaluation of leadership effectiveness. The appropriate criteria depend on the objectives and values of the person making the evaluation. People may have different values (Yukl, 2013). Top management, for instance, may prefer different criteria to other employees, customers, or shareholders. It consequently is paramount to include a variety of criteria in research on leadership effectiveness and to examine the impact of the leader on each criterion over an extended period of time (Yukl, 2013).

2.3 THE DEFINITION OF ETHICAL CLIMATE

It is essential to first inspect the significance of organisational ethics as the broader concept in order to discover the importance of ethical climates in organisations.

2.3.1 Definition of ethics

Organisational ethics comprises principles of right and wrong which govern employees' behaviour. These principles are essential to the successful management of counterproductive and unethical behaviours in the workplace (Buckley *et al.*, 2001). Organisational ethics can be defined as the study of behaviour within an organisational context that is consistent with the principles, norms and standards of business practices as agreed upon with the community (Boshoff & Van Zyl, 2011). Organisational ethics is furthermore focussed on shared value systems that guide, channel, shape, and direct employees' behaviour in a productive direction (Buckley *et al.,* 2001). Organisational ethics are deeply concerned with both the moral values and the moral actions of employees (Jones, 2007). Moral values are the basic ideals that are considered desirable or worthwhile for human interaction, while moral actions are the overt expressions and applications of these underlying values. Organisational ethics are called into question when the moral values or the accompanying moral actions of organisational decision making conflicts with the commonly accepted standards of society (Jones, 2007). These entities therefore serve as channelling or shaping mechanisms which encourage appropriate decisions and behaviour at work (Buckley *et al.,* 2001).

The rationale for ethics as a good practice in organisations is that the ethical context in the organisation will create the appropriate climate for employees to exhibit ethical behaviours (Buckley *et al.,* 2001). Additionally, it has been recognised that employees' behaviours and attitudes are specifically influenced by their organisational climate (Cullen, Parboteeah & Victor, 2003; Deshpande, 1996; Elçi & Alpkan, 2009; Turnispeed, 1988; Wang & Hsieh, 2012).

2.3.2 Definition of ethical climate

The term climate refers to the atmosphere in which individuals help, reward, judge, constrain and perceive each other. It influences the morale and attitude of employees towards their work and environment (Chahal, Dua, Singh & Mahey, 2012).

Ethical climates can be seen as subsets of organisational climates consisting of normative values and beliefs which involve moral issues shared by employees (Jones, 2007; Weber, 1995; Van Aswegen & Engelbrecht, 2009). Ethical climates can be defined as the prevailing perceptions of organisational practices and procedures that have ethical content and determine ethical behaviour at work (Victor & Cullen, 1988; Webb, 2012; Zhu, Avolio, Riggio & Sosik, 2011). The ethical climate of an organisation is the shared set of understandings of what ethically correct behaviour is and how ethical issues should be handled, guiding

decision making at all levels in an organisation (Laratta, 2009; Sims 1992, 1988; Van Zyl, 2012; Victor & Cullen, 1987). The climate that has been established and reinforced in an organisation makes a big difference to the way in which lower level employees act when ethical dilemmas are faced (Van Zyl, 2012). The climate consequently sets the tone for decision making at all levels and in all circumstances. Some of the factors that may be emphasised in different ethical climates of an organisation are:

1. Personal self-interest;
2. Company profit;
3. Operating efficiency;
4. Individual friendships;
5. Social responsibility;
6. Personal morality; and
7. Rules and standard procedures (Van Zyl, 2012).

Victor and Cullen (1987, 1988) essentially introduced the concept of ethical climate as a way to explain and predict ethical conduct in organisations. An ethical climate is linked to a range of ethical behaviours and possibly even counterproductive behaviours such as absenteeism, turnover, lax performance and tardiness, which may all be linked to organisational performance. Additionally, an ethical climate involves important consequences for organisations, including the legitimisation of managerial actions, improved trust, consistency of standards and quality of products, greater organisational commitment and increased effectiveness due to a strengthened organisational culture (Carlson & Perrewe, 1995). Appropriate ethical behaviour during an ethical dilemma will consequently be based on the organisation's ethical climate (Wimbush & Shepard, 1994).

Organisational values and beliefs influence employee decision making and behaviour significantly and are manifested as multiple climates existing within a single organisation (Rossouw, 1997). In general, organisations comprise multiple climate types to address the different facets of the organisations (Schneider, 1975). Victor and Cullen (1987, 1988) accentuated the notion that organisations have a climate type related to their ethical issues. Most organisations are seen to have a dominant ethical climate type even though different ethical climates exist within and between organisations (Victor & Cullen; 1987, 1988).

Research posited that climates of all types exist on two levels; on an individual as well as on an organisational level. The psychological level concerns the individual's perception of his/her enclosed climate, while climate on the organisational level involves the aggregated perception of the climate in which the defined group are found. Ethical climates can be

analysed on each of these levels (Victor & Cullen, 1988). At the individual level, perception of the ethical climate of the organisation in which the individual works 'may influence the types of ethical conflicts considered, the process by which such conflicts are resolved and the characteristics of their resolution' (Victor & Cullen, 1987, p. 55). Field and Abelson (1982) has consequently conceived climate as a key link between the organisation and the individual.

An organisation's climate type can furthermore be classified along the following dimensions: type of criteria and level of analysis (Arnaud, 2010; Victor & Cullen, 1987, 1988; Wang & Hsieh, 2012). Type of criteria refers to a dominant or prescribed moral philosophy used in ethical decision making in organisations or group of interest. Levels of analysis refer to whether the central concern of individuals within the group in ethical decision making is self-interest, company-interest, or societal interest. The three ethical criteria are: egoism (maximising one's own interests); benevolence (maximising the interests of as many people as possible); and principle (adherence to universal standards and beliefs) (Wang & Hsieh, 2012). Benevolence and principle are used when an individual or group is faced with an ethical dilemma. In brief, in an organisation characterised primarily by a benevolence ethical criterion, employees would consider the wellbeing of the greatest number of others when solving ethical problems. Where the ethical decision-making criterion is largely characterised by the principle criterion, the application and interpretation of rules and principles would be predominant. In both of these moral theories, concern for the interests of others is a central assumption. In contrast, in a group based on the egoistic criterion, a concern for one's exclusive self-interest would be the predominant basis for decision making in ethical dilemmas (Rachels, 1992).

Victor and Cullen (1987) cross-classified the ethical theory's three criteria (i.e., egoism, benevolence and principle) with three referents (i.e., individual, local and cosmopolitan) to form nine theoretical approaches of the ethical climate. Victor and Cullen's (1987) nine-cell typology of ethical climates serves as determinants of the condition of an organisation's ethical climate and the manner in which ethical issues are dealt with. In terms of the egoism criterion an individual locus of analysis indicates a climate that encourages the consideration of each individual's needs and preferences (e.g. personal gain). The local level of analysis considers the organisation's interests (e.g. profit) and, lastly, the cosmopolitan locus of analysis considers society's best interest (e.g. efficiency) (Victor & Cullen, 1988; Wyld & Jones, 1997). In the context of the benevolence criterion, an individual locus of analysis can be seen as the consideration for other people, regardless of organisational members (e.g. friendship). The local locus of analysis concerns the organisational collective (e.g. team play), whereas the cosmopolitan locus considers others outside the organisation as social

responsibility (Victor & Cullen, 1988). At the individual level of the criterion principle, morals are self-chosen – i.e. one's own morals. At the local locus, the source of morals is contained in the organisation itself (e.g. its rules and regulations), while the source of morals is found outside the organisation (e.g. laws, professional codes of ethics) at the cosmopolitan locus.

The 3 x 3 matrix/typology (Wyld & Jones, 1997) represented the theoretical climate types which could be found in organisations. Consequently, five different corporate ethical climates emerged as combinations of nine separate categories. The descriptive climate types/dimensions are presented along with the cells of the nine-cell typology which were combined to form them. The climate types are not regarded as being mutually exclusive, neither are the types assumed to be uniform throughout an organisation's sub-group (Victor & Cullen, 1988; Wang & Hsieh, 2012; Wyld & Jones, 1997).

2.3.3 Ethical climate types

Victor and Cullen (1988) identified the following five ethical climate dimensions:

1 *Caring.* In an ethical climate dominated by the 'caring' dimension, employees would have sincere interest in the wellbeing of others, both within and outside the organisation, who might be affected by their ethical decisions. This dimension rests on a utilitarian basis, meaning that the policies and practices of the workgroup would foster concern for those affected by employees' decisions. Policies and practices would not only promote this dimension, but most workgroup members would individually conduct themselves in this manner.

2 *Rules.* An organisation characterised by the 'rules' dimension of an ethical climate would be comprised of workers who adhere strictly to the organisational rules and policies. The deontological foundation for a rules climate requires an allegiance to rules and principles. In this case, the rules would serve as a guide for employees' ethical decision making.

3 *Law and code.* An ethical climate immersed in the 'law and code' dimension would require that employees adhere to the codes and regulations of their profession or government.

4 *Independence.* Workers are guided by their personal moral beliefs in an ethical climate emphasising the 'independence' dimension. According to this dimension of ethical climate, persons would act according to their own personal moral beliefs based upon a set of well-considered principles. Individuals would also be self-guided to the extent

that others within and outside of the organisation have little or no influence on their ethical decision making.

5 *Instrumental*. In an ethical climate based on the 'instrumental' dimension, organisational members are predominantly concerned with their own interests, to the exclusion of the interests of others who may be affected (even adversely) by their decisions.

The different types of corporate ethical climates may advocate that certain climate types may be more prone to particular behaviour problems. Research provides evidence that a substantial relationship exists between employees' attitudes and behaviours and the organisational climate. It has consequently been suggested that an organisational climate may be a significant factor in shaping the behaviour and attitudes of employees (Cullen, Parboteeah & Victor, 2003; Deshpande, 1996; Elçi & Alpkan, 2009; Wang & Hsieh, 2012). The fundamental justification behind the realm of research on ethical climates seems to be the realisation that perceptions of ethical climates tap essential issues that affect people's reactions to work and their organisations (Martin & Cullen, 2006; Simha & Cullen, 2011). A natural extension of research on ethical climate therefore is to examine the relationship between the dimensions of ethical climate and employee behaviour (Wimbush & Shepard, 1994).

2.3.4 Ethical climate and ethical behaviour

Employee behaviour depends on the dimension of the climate associated with the group (Wimbush & Shepard, 1994). Not all dimensions are equally conducive to promote ethical employee behaviour in organisations. Differences exist as a result of the tenets underlying the climates of ethical theories which serve as a basis for making decisions about ethical behaviour (Wimbush & Shepard, 1994). An organisation's ethical climate type can enhance its employee's awareness of moral obligations, which will not only prevent the undertaking of unethical acts, but will also enhance their willingness to disclose organisational problems, especially those corruptive in nature (Wang & Hsieh, 2012).

From amongst the five ethical climate types/dimensions, it has been predicted that the instrumental climate will most probably foster unethical behaviour. This can be attributed to the fact that individuals' decision making in instrumental ethical climates are most likely to promote employees' exclusive self-interest, regardless of laws, rules, or the impact their actions have on others (Wimbush & Shepard, 1994). In contrast, ethical employee behaviour is expected in organisations where benevolent and principle climates (i.e., caring, independence, rules, and law and code) are predominant. These organisational climates

have policies and accepted behaviour which require the consideration of others when making ethical decisions (Simha & Cullen, 2011; Wimbush & Shepard, 1994). Organisations needing to adhere to a visible code of conduct and rules (such as engineering, accounting, and law firms) will be more likely to have principled climates (either rules or law and code). However, firms that operate under conditions of high volatility and competitiveness are more likely to harbour egoistic climates. Judging from research findings, it appears that organisations should strive to encourage and establish benevolent and principled climates while striving to prevent egoistic climates from setting in (Simha & Cullen, 2011).

An understanding of the relationship between the various ethical climates types/dimensions and the behaviour within work groups will enhance managers' and researchers' diagnosis of the evident ethical climate and ethical behaviour in the organisation. Diagnosing the climate and behaviour in organisations enables easy alterations in the climates of working units where unethical behaviour is prevalent (Wimbush, Shepard & Markham, 1997). Theorists acknowledge the influence organisational climates have on employees' ethical behaviour, and furthermore proclaim that climate dimensions may also have a significant impact on overall organisational or workgroup performance (Wimbush & Shephard, 1994).

2.4 DEFINITION OF ORGANISATIONAL JUSTICE

Organisational justice can be viewed as the perception that individuals are treated justly and ethically (Fernandes & Awamleh, 2006; Greenberg, 1993). Fairness (i.e. justice) originated from Adam's (1965) equity theory referring to the perceived fairness of employee treatment by an organisational system and its agents (Greenberg, 1990; Linna, Väänänen, Elovainio, Kivimäki, Pentti & Vahtera, 2011; Moorman, 1991). Organisational justice entails a personal evaluation of the ethical and moral standing of managerial conduct. Producing justice requires management to take the perspective of an employee. Management needs to understand why employees consider certain events as just as well as the consequences that follow from these events. Management needs to understand which events prompt employees' subjective feelings of organisational justice (Cropanzano Bowen & Gilliland, 2007). Incidentally, organisational justice can be seen as a subjective and descriptive concept which captures what employees perceive to be right, rather than an objective reality or a prescriptive moral code. Organisational justice can be seen as the "glue" that allow employees to work together effectively. It consequently is functional to consider three reasons why justice matters to individuals (Cropanzano *et al.,* 2007).

Long-range benefits. People often want to estimate how they are likely to be treated *over time.* A just organisation will make this prediction easy. According to Cropanzano *et al.,*

(2007) employees prefer justice because it allows them to predict and control the outcomes they are likely to receive from organisations in the long run.

Social considerations. People wish to be accepted and valued by important others while not being exploited or harmed by powerful decision makers. Tyler and Blader (as cited in Cropanzano *et al.,* 2007) assert that this sense of belonging is important to employees apart from the economic benefits it can bring.

Ethical considerations. People furthermore care about justice as they consider it the morally appropriate way others should be treated (Cropanzano *et al.,* 2007). When individuals witness an event they believe is unethical, they are likely to take considerable risks in the hopes of extracting retribution (Cropanzano *et al.,* 2007).

When considering the role that organisational justice plays in organisations, it is important to consider the varied nature of the three different aspects of justice perceptions, namely distributive, procedural an interactional justice (Niehoff & Moorman, 1993; Paterson, Green & Cary, 2002). Research has shown that employees assess the three types of workplace events; the justice of outcomes (distributive justice); the justice of the formal allocation processes (procedural justice); and the justice of interpersonal transactions they encounter with others (interactional justice). Distributive, procedural, and interactional justice is correlated. They can be treated as three components of overall fairness but if one's goal is to promote workplace justice, it is useful to consider them separately and in detail. This may be due to the fact that each component is provoked in distinct ways, occurring from different managerial actions (Cropanzano *et al.,* 2007).

The first component of justice, *distributive justice,* has to do with the allocations or outcomes that some get and others do not. Distributive justice concerns the perceived fairness of the distribution of outcomes and workloads provided to and performed by individuals based on Adams' (1965) equity theory (Miller, Konopaske, & Byrne, 2011). Distributive justice represents the reality that not all employees are treated alike and that the allocation of outcomes is differentiated in the workplace. In general we can discern three allocation rules that can lead to distributive justice if they are applied appropriately: equality (to each the same); equity (to each in accordance with contributions); and need (to each in accordance with the most urgency) (Cropanzano *et al.,* 2007; Fuchs & Edwards, 2012; Lam, Schaubroeck & Aryee, 2002). Distributive justice relates to cognitive, affective and behavioural reactions to particular outcomes. When a particular outcome is perceived as unfair, it affects the person's emotions (e.g., experiences anger); cognitions (e.g., cognitively distorts inputs and outcomes of himself/herself or of the other); and, ultimately, their

behaviour (e.g., withdrawal). Distributive justice hence is related to individual level outcomes such as job satisfaction (Fernandes & Awamleh, 2006; Greenberg, 1993).

The study of distributive justice furthered the development of procedural justice; the perceived fairness of formal processes; and procedures used to determine outcome decisions (Cohen-Charash & Spector, 2001; Fuchs & Edwards, 2012; Thibaut & Walker, 1978). *Procedural justice* concerns the means by which outcomes are allocated. Procedural justice ascertains certain principles specifying and governing the roles of participants within the decision-making processes. A just process can be seen as one that is applied consistently to all, free of bias, accurate, representative of relevant stakeholders, correctable and consistent with ethical norms (Cropanzano *et al.,* 2007). Kim and Mauborgne (as cited in Cropanzano *et al.,* 2007) asserted that employees who trust their leaders to use a fair planning process will be more supportive of the plan; will trust their leaders more; and will be more committed to their employers. Conversely, procedural injustice will reduce cooperation in strategy execution. Procedural justice furthermore appears to be essential to maintaining institutional legitimacy (Cropanzano *et al.,* 2007). Procedural justice may also influence what employees believe about their organisation as a whole. If the process is perceived as just, employees would most likely demonstrate greater loyalty and more willingness to behave in the organisation's best interests. They might also be less likely to betray the institution and its leaders (Cropanzano *et al.,* 2007).

When the outcome of a process is perceived as unfair, employees' consequent reactions may be directed towards the whole organisation rather than towards the outcome as in the case of distributive justice (Cropanzano & Folger, 1991; Fernandes & Awamleh, 2006; Sweeney & McFarlin, 1993). Greenberg (1990) identified two components of procedural justice. The first component concerns the fair formal procedures, which is that the presence or absence of procedures believed to be fundamental to the fair distribution of rewards influences fairness perceptions (Leventhal, 1980; Miller et al., 2011). Examples of such procedures are those designed to increase employee voice in decisions or to decrease bias and error in decisions (Niehoff & Moorman, 1993). Justice thus in part is determined by the perceptions of outcomes as positive or negative to the perceiver (Diekmann, Samuels, Ross, & Bazerman, 1997; Fernandes & Awamleh, 2006; Greenberg, 1994; Messick & Sentis, 1979). Justice also depends on the organisation's adherence to Leventhal's (1980) six procedural justice rules, namely procedures are seen to be consistent, free from bias, ethical, accurate, correctable and representative (Fernandes & Awamleh, 2006). Organisations following procedures which allow employees to be heard will consequently be considered fairer than those that prohibit employees from having their say.

The second component of procedural justice is *interactional justice*. This term refers to the fairness of the treatment an employee receives in the enactment of formal procedures or in the explanation of those procedures (Bies, 1987; Bies & Moag, 1986; Bies & Shapiro, 1987; Miller et al., 2011; Tyler & Bies, 1990). There are two aspects of interactional justice: informational and interpersonal justice (Colquitt, Conlon, Wesson, Porter & Ng, 2001; Cropanzano *et al.,* 2007). *Informational justice* refers to whether one is truthful and provides adequate justification when things go wrong. *Interpersonal justice* refers to the respect and dignity with which one treats another. When subordinates discuss issues of justice or fairness, their understanding often hinges on the interpersonal treatment they receive from their managers (Bies, 2001). Bies and Moag (1986) designated four rules to define fair interpersonal treatment on behalf of managers: (a) respect—subordinates should be treated with sincerity and dignity; (b) propriety—managers should refrain from improper or prejudicial statements; (c) justification—managers should provide adequate explanations for decision making; and (d) truthfulness—those explanations should be honest, open, and candid. Recent taxonomies of organisational justice group the respect and propriety rules under the *interpersonal justice* heading, and the justification and truthfulness rules as defining *informational justice* (Bies, 2005; Colquitt, 2001; Colquitt & Shaw, 2005; Greenberg, 1993; Scott, Colquitt & Zapata-Phelan, 2007).

Cohen-Charash and Spector (2001) specified that Interactional justice is primarily concentrated on the interpersonal side of organisational practices, specifically the interpersonal treatment and communication by management to employees. Several researchers (Cropanzano, Prehar & Chen, 2002; Moliner, Martı´nez-Tur, Ramos, Peiro´ & Cropanzano, 2008; Moorman, 1991) rely on the three-factor conceptualisation to accurately conceptualise and measure organisational justice., Other researchers, though, have proposed and shown that interactional justice should be sub-divided into two distinct other dimensions (Miller, Konopaske & Byrne, 2011). Greenberg (1993), in particular, posited that interactional justice does not completely capture the reactions that people have when decisions and procedures are implemented. He reasoned that interactional justice should be divided into two independent dimensions: informational and interpersonal justice. Greenberg (1993) hence introduced a four-factor model of organisational justice. He defined informational justice as the quality of the explanations provided regarding how decisions are made and the thoroughness of the explanations given. He further defined interpersonal justice as the degree of concern, respect, and sensitivity displayed by authority figures over outcomes received. Empirical tests of the four-dimension delineation (i.e., distributive, procedural, interpersonal, and informational justice) were provided by Colquitt (2001) and Colquitt *et al*. (2001) reporting construct and discriminant validity evidence. Several

researchers (Liao and Rupp, 2005; Mayer, Nishii, Schneider & Goldstein, 2007) have ever since found additional empirical support for the four-factor model (Miller *et al.,* 2011).

The significance of interpersonal and informational justice can be elucidated through Bies's (2005) distinction between "exchanges" and "encounters." According to Bies (2005), procedural and distributive justice to some extent is circumscribed in resource exchange contexts that may be relatively infrequent (Scott *et al.,* 2007). Conversely, interpersonal and informational justice can be judged in almost any encounter between managers and subordinates, regardless of whether resource allocation decisions are being made. This argument counters Folger's (2001) proposition that the latter justice forms are more within a manager's discretion, providing managers with opportunities to adhere to (or violate) those justice rules. Ultimately, these arguments suggest that interpersonal and informational justice have "day-in day-out" significance that the other justice dimensions may not have (Scott *et al.,* 2007).

Evidence suggests that the three components of justice are interrelated (Cropanzano, Slaughter & Bachiochi, 2005; Cropanzano *et al.,* 2007; Skarlicki & Folger, 1997). The ill effects of injustice can consequently be partially mitigated if at least one component of justice is maintained. In many cases, the manner in which an employee is treated whilst a procedure is being carried out can influence its perceived fairness. Therefore, fair formal procedures, fair interpersonal treatment, or both, may influence procedural justice judgments (Niehoff & Moorman, 1993). Bies and Moag (1986) identified truthfulness (honesty and avoiding deception); courtesy; respect for individual rights; propriety of behaviour (e.g. avoiding prejudice); and justifying decisions as typifying fair treatment by decision makers (Paterson *et al.*, 2002).

2.5 DEFINITION OF ETHICAL LEADERSHIP

Before defining ethical leadership as a construct it is fundamental to discuss the two separate constructs and then their relatedness with one another.

2.5.1 Leadership and ethics

In the literature, leadership has been described and defined in many ways, but a common perception among the varied accounts is that ethics is central to leadership (Ciulla, 2006; Piccolo, Greenbaum & Eissa, 2012). Van Zyl and Boshoff (2010) assert that management sets the example as behavioural role models and their philosophies and behaviour resultantly can be seen to affect ethical behaviour of employees. It could be argued that all approaches to leadership and change are underpinned by a set of ethical values that influence the actions of leaders and the outcomes/consequences of change initiatives

(Burnes & Jackson, 2011; By, Burnes & Oswick, 2012). Leaders consequently have a critical role to play in ensuring participation in decision making and value-structuring while furthering the norms that support corporate ethics (Pimentel, Kuntz & Elenkov, 2010).

The ethics of leadership rests upon three pillars (Bass & Steidlmeier, 1999; Yukl, 2010). The first pillar represents the moral character of the leader. The second pillar entails the ethical values embedded in the leaders' vision; communicating the vision to employees; and the means to achieve it. The third pillar concerns the morality of the choices and actions that leaders and followers engage in and pursue to realise the ethical vision. At the core of a leader's credibility are his or her beliefs – people expecting their leaders to have the courage of their convictions (Kouzes & Posner, 1999; Yukl, 2010). If leaders are not clear about what they believe in, they are much more likely to change their position with every trend or opinion poll (Hesselbein, Goldsmith & Beckhard, 1996; Yukl, 2010). Leadership credibility firstly necessitates that a leader clarifies personal values. It ultimately is the actions of leaders that serve as verification of their credibility (Kouzes & Posner, 1999; Yukl, 2010). Judgments about the ethics of a particular decision or action takes the purpose (ends) into consideration, as well as the extent to which behaviour is consistent with moral standards (means) and the consequences for self and others (outcomes).

The three criteria are usually considered in relation to each other, and a common issue is the extent to which the ends justify the means. Moral standards are used to evaluate the means such as the extent to which leader behaviour violates basic laws of society; denies others their rights; endangers the health and lives of other people; or involves attempts to deceive and exploit others for personal benefit (Yukl, 2010).

The question could furthermore be raised whether leaders themselves are representative of ethical behaviour in their organisation. Should leaders in organisations strive to be seen as ethical leaders or rather as leaders of ethics? There seems to be a considerable difference between being a leader of ethics and being an ethical leader (Spangenberg & Theron, 2005). A leader of ethics exhibits ethical behaviour and promotes ethical behaviour through explicit reinforcement of the behaviour. Reinforcement can be done through instilling ethical codes, policies and rules in a visible manner in the organisation, as well as through rewarding the compliance of employees' behaviour with these codes, policies and rules. Ethical leaders, on the other hand, will also exhibit ethical behaviour but do not necessarily contribute to the development and reinforcement of followers' behaviour by means of codes and regulations. The modelled ethical behaviour of these followers may not be as powerful a determinant as in the case of leaders of ethics (Spangenberg & Theron, 2005). In the search of leaders of ethics who both promote ethical behaviour in the organisation and perform the

behaviour themselves, it is essential to uncover the significance of ethical leadership in organisations.

2.5.2 Definition of ethical leadership

During the last few years the development and promotion of ethical leadership have gained growing interest in organisations and have consequently been widely researched (Brown, Treviño & Harrison, 2005; Brown & Trevino, 2006a; De Hoogh & Den Hartog, 2008; Den Hartog & De Hoogh, Eisenbeiss, 2012; Kalshoven, 2011; Malan & Smit, 2001; Resick, Hanges, Dickson, & Mitchelson, 2006; Treviño, Brown & Hartman, 2003; Yukl, 2010; Zhu *et al.,* 2011). The emergent interest in ethical leadership could be ascribed to the significant impact leaders have on employees' conduct in organisations and, ultimately, on the organisation's performance (De Hoogh & Den Hartog, 2008).

Ethical leadership can be defined as the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and encouraging such conduct through two-way communication with followers, reinforcement, and decision making (Brown, Treviño & Harrison, 2005; Zhu *et al.,* 2011).

Acting in a normatively appropriate manner is to act consistently with general expectations regarding how leaders should behave in a work context. 'Normatively appropriate', implies that leaders are fair, honest, principled, and trustworthy in taking responsibility for their actions, and use rewards and punishments where appropriate to hold subordinates responsible for their actions (Piccolo *et al*., 2012). Ethical leaders, as described by Brown and Treviño (2006a), should exhibit traits that are consistent with normative ethical principles such as honesty, fairness, and trustworthiness. These leaders should make fair and principled decisions, and actively consider the appropriateness of those decisions in terms of their ethical consequences. Such leaders will demonstrate moral management behaviour, communicate ethics, reward employees for ethical compliance, and not compromise ethical standards in the pursuit of short-term organisational performance (Brown *et al.,* 2005; Piccolo *et al.,* 2012).

Ethical leaders could also be seen as having the will and ability to strategically position, design and sustain an organisation successfully, to develop employee competence and to direct human and organisational energy in pursuit of performance and achievement that stand the ethical test of effectiveness, efficiency, economy and integrity (Naidoo, 2012; Malan & Smit, 2001; Van Aswegen & Engelbrecht, 2009). Ethical leadership comprises two key components – the 'moral person' and the 'moral manager'. The moral person component refers to a leader's moral traits such as honesty, integrity and trustworthiness. Ethical

leaders also behave ethically by doing the right thing when faced with ethical dilemmas. They tend to be open and honest when communicating with others, and they show a high level of concern for other people. Besides living their personal lives according to standards of morality, they also uphold their values when introducing decision-making rules (Piccolo *et al*., 2012). The moral manager component of ethical leadership refers to a leader's intentional efforts to influence others and guide the ethical behaviour of followers. A moral manager serves as a role model for subordinates by visibly upholding ethical standards as demonstrated by the manager's behaviour. The manager reinforces ethical behaviour by rewarding and/or disciplining employees according to ethical standards. The moral manager furthermore communicates the importance of ethics to employees on a regular basis (Brown & Trevino, 2006a; Eisenbeiss, 2012; Naidoo, 2012; Piccolo *et al.,* 2012; Trevino, Brown & Hartman, 2003; Zhu *et al.,* 2011).

Ethical leadership additionally consists of four central ethical orientations: 1) humane orientation; 2) justice orientation; 3) responsibility and sustainability orientation; and 4) moderation orientation. All four orientations refer to either the leadership component of setting goals and/or the component of influencing others (Eisenbeiss, 2012).

Humane orientation signifies treating others with respect and dignity and seeing them as ends rather than means. It may also be explicated as a leaders' full recognition of the rights of others, their compassionateness and concern about people's wellbeing. Current approaches to ethical leadership refer to different aspects of humane orientation by stressing the importance of leader altruism, leader respect for the rights and dignity of others or leader-people orientation (Eisenbeiss, 2012; Kalshoven *et al*., 2011).

Justice orientation furthermore includes making fair and consistent decisions with no discrimination against others (De Hoogh & Den Hartog, 2008; Eisenbeiss 2012; Treviño *et al.,* 2003; Yukl, 2010). It has been postulated that, for procedures to be fair they have to be applied consistently regarding people and time; to be non-biased by third parties; and to include gathering and employing accurate information (Eisenbeiss, 2012; Leventhal, 1980). Justice orientation can be revealed through leaders' consistent decision making; respect for diversity; and non-discriminatory treatment for others with regard to sexual differences, nationality, religion, political beliefs, economic or social status. Leader justice has been proposed as a core element of ethical leadership (Eisenbeiss, 2012; Northouse, 2001). Johnson (2009) also emphasised justice as a central principle for ethical leaders as it results in fair and equal treatment of others (Eisenbeiss, 2012).

Responsibility and sustainability orientation resembles leaders' long-term views on success and their concern for the welfare of society and the environment. It concerns a leader's

sense of responsibility towards himself and the community and may be expressed by a long-term focus on organisational performance; reflection upon the impact of decisions on society and the natural environment; and consideration of the interests and needs of future generations (De Hoogh & Den Hartog, 2008; Eisenbeiss, 2012; Ferdig, 2007; Kalshoven *et al.,* 2011). The responsibility and sustainability orientation reflects a leader's position towards more indefinite and distal targets (i.e., society and the common good) and seems to refer particularly to the leadership component of setting goals.

Moderation orientation refers to restraint and humility, which balances leader behaviours. It can be elicited through leaders' self-control, their ability to restrain emotions and personal desires, humility, as well as careful and wise attempts to find a balance between organisational objectives (ethically neutral or positive) and stakeholder interests (e.g., between financial, profit and socially responsible investment; between short-term and long-term objectives; between organisational and team interests). As an ethical principle, moderation orientation aims to balance legitimate organisational objectives and/or stakeholder interests (Eisenbeiss, 2012).

Brown and Treviño (2006a) also presented several propositions on how ethical leadership is influenced by certain situational and personality characteristics and how it may impact follower ethical and unethical behaviours. The understanding of the predictors and outcomes of ethical leadership is refined by differentiation between the different aspects of ethical leadership as identified in the four central orientations (Eisenbeiss, 2012) and drawing on the concept of moral identity (Aquino & Reed, 2002). The concept of moral identity (Aquino & Reed, 2002; Eisenbeiss, 2012; Zhu *et al.,* 2011) may foster our understanding of why some leaders are more likely to act in consistence with the four central orientations of ethical leadership than others. Moral identity can be seen as a self-conception around a set of moral traits and represents a relatively stable characteristic over time, particularly when it is of high self-importance for a person (Aquino & Reed, 2002; Eisenbeiss, 2012; Zhu *et al.,* 2011). In addition, Damon and Hart (1992, p. 455) stated that people whose self-concept is organised around their moral beliefs are highly likely to translate those beliefs into actions consistently throughout their lives. A leader's moral identity is provisioned to predict a leader's adherence to the four central orientations of ethical leadership (Eisenbeiss, 2012).

Leaders with a high moral identity would furthermore spend a great amount of cognitive resources on understanding and resolving ethical dilemmas. They are also more likely to make use of a sophisticated decision-making procedure, whereas individuals with a weak moral identity may apply basic heuristics which might not adequately address the complexity of the moral dilemma (Aquino & Reed, 2002; Eisenbeiss, 2012). Leaders with a strong moral

identity are more likely to make a profound effort to find the best possible solution and to carefully examine if, or to what extent, available alternatives are consistent with general ethical principles such as the four central orientations. The moral traits underlying the moral identity construct includes, e.g., caring, compassionate, fair, helpful, kind, and generosity. These traits directly address facets of the central orientations and, as identity, involves being true to oneself; leaders with high moral identity are more likely to make choices in line with the four central orientations (Eisenbeiss, 2012).

Another important concept in predicting the extent to which leaders express the central orientations is their cognitive moral development (Eisenbeiss, 2012). Cognitive moral development refers to individuals' thoughts concerning right or wrong behaviour and their capacity for principled reasoning (Boshoff & Van Zyl, 2011; Eisenbeiss, 2012; Kohlberg, 1969, 1984). Kohlberg (1969) proposed a six-stage model for cognitive moral development delineating the development of individuals' increasingly sophisticated and complex cognitive processes of moral decision making. The model attempts to specify the reasoning individuals use in making moral judgments, focusing on cognitive processes rather than on the outcomes of the decision itself.

Moral reasoning at the pre-conventional level (stages one and two) is either driven by obedience to authorities and fear of punishment (stage one), or based on own interests and instrumental exchange (stage two) (Boshoff & Van Zyl, 2011). At the conventional level (stages three and four), individuals no longer perceive themselves as isolated entities but as members of society and build their reasoning on the expectations of the family and significant others (stage three), or on what is commonly agreed on in society and social systems (e.g., rules and law) in stage four, where most people are seen to be (Boshoff & Van Zyl, 2011; Eisenbeiss, 2012; Rest, Narvaez, Bebeau & Thoma, 1999). Furthermore, individuals at the principled level (stages five and six) are no longer bound to social accord but uphold internal moral values and rights, even if they are in opposition to the majority opinion (stage five) or follow self-chosen universal principles (stage six) (Kohlberg, 1969; Eisenbeiss, 2012). Higher-level ethical reasoning may hence facilitate perceptions of ethical leadership because executives who reason at this level are perceived to care about employees' well-being; value employee's opinions; make decisions that balance multiple interests; and act in a fair and principled manner – all of which are components of the ethical leadership component (Brown *et al*., 2005; Brown & Treviño, 2006a; Treviño *et al*., 2003; Jordan, Brown, Treviño & Finkelstein, 2011).

In essence, Kohlberg's (1969, 1984) model proposed that moral reasoning becomes less centred on individuals' interests within a development stage and more orientated towards

'the bigger picture'. Individuals gradually broaden their normative frames of reference from interpersonal agreements with family and peer groups, to social accord and system maintenance – and finally transcend externally set rules to resume a universal view of morality. The widening of individuals' perspectives is related to leader expressions of the central orientations such as treating others with respect and dignity; fair and non-discriminatory decision making; humility; and true concern for societal and environmental welfare (Eisenbeiss, 2012). Such leaders have overcome the pre-conventional level of moral reasoning in which they are guided by personal interests and instrumentalities. At the conventional level, leaders tend to look at external cues such as the situation and significant others to determine right and wrong behaviour (Treviño, 1986; Eisenbeiss, 2012).

Leaders, expressions of central orientations may vary in accordance to the ethicality of environmental influences they are embedded in. The organisational culture and corporate ethics programmes, the role-model behaviour of top management and the peer group at the conventional level may all have a significant influence on leaders' expressions on the four central orientations at the various stages (Eisenbeiss & Giessner, 2012; Kaptein, 2009; Mayer, Kuenzi, Greenbaum, Bardes & Salvador, 2009). At the principled level, however, leaders rely on non-relative principles of fairness and rights. Leaders at this level gain independence from external cues and uphold their moral principles, even if peculiar to the majority's opinion or the prevalent environmental influences (Eisenbeiss, 2012; Treviño, 1986). Research has proved that high cognitive moral development is associated with ethical decision making (Ashkanasy, Windsor & Treviño, 2006; Eisenbeiss, 2012). Leaders at the principled level of cognitive moral development are therefore more prone to express the four central ethical orientations in their choices and behaviours than leaders at the lower levels. Leader expressions of responsibility and sustainability orientations, however, are probable to surface at stages five and six when leaders widen their perspectives of society and the environment whilst acknowledging global terms (Eisenbeiss, 2012).

Ethical leadership furthermore is often confronted with intricate circumstances and moral dilemmas where clear-cut solutions are not available due to the complexity of the subject matter (Eisenbeiss, 2012). Moral dilemmas may emerge from the tension between divergent expectations of internal and external stakeholders or between economic requirements and followers' personal and social needs. Organisational leaders may be caught in the ethical dilemma of securing employment and retaining the workforce in times of a severe economic fall, whilst risking the economic survival of the organisation in the long run. Tailored responses must hence be developed in a process of mature moral consideration and reflection by utilising Rest's (1986) model of individual ethical decision making (see Figure 2.1 in Appendix A) (Eisenbeiss, 2012). Employing Rest's model necessitates that leaders

recognise the ethical dimension of an issue or problem, make an ethical judgment, and establish and realise the ethical objective through engagement in ethical behaviour (Arnaud, 2010; Eisenbeiss, 2012; Jones, 1991).

Dilemmas, however, implicate that conflict resolution through ethical judgment is extremely difficult. The four central orientations of ethical leadership can assist leaders in attaining ethically justifiable judgments. Leaders can apply the central orientations in terms of two dimensions: a horizontal collective dimension and a vertical time dimension in attempting to filter out the important facets of a moral dilemma and to methodically determine the consequences of all possible solutions (Eisenbeiss, 2012). The horizontal collective dimension refers to the identification and inclusion of all the relevant stakeholder groups involved in the particular dilemma and/or likely to be affected by the decision – e.g. followers, work team, organisation, customers, suppliers, political and non-governmental interest groups, environment, regional and even international community (Eisenbeiss, 2012; Maak & Pless, 2006). Leaders can use the central orientations to analyse the alternative solutions and their consequences, not only with reference to its stakeholders, but to also consider the interests and needs of more distal and vulnerable stakeholders such as social groups, the community, and the environment (Eisenbeiss, 2012). The vertical time dimension concerns the long-term focus of decision making and involves anticipating and taking future developments into consideration. Consequently, leaders can use the four central orientations to determine the consequences of a possible course of action, immediately and in the future.

For moral and practical reasons, organisations are interested in decreasing unethical behaviour and relationship conflict. Ethical leaders hence play a pivotal role in reducing such negative outcomes. Leaders set the ethical tone of an organisation and are instrumental in encouraging ethical behaviour and reducing interpersonal conflict among their subordinates. More importantly, however, leaders not only have to be moral individuals, but they also have to go one step further and actively model ethical behaviours. Companies that can hire and/or train ethical leaders will be more likely to create ethical and interpersonal harmonious work environments (Mayer *et al*., 2012).

Influencing follower commitment and optimism are central aspects of effective leadership theories (Eisenbeiss, 2012; Treviño, Hartman & Brown, 2000). This influence is also the source of ethical concerns. The problem in evaluating ethical leadership is to determine when the influence is proper (Eisenbeiss, 2012). Ethical leadership positively influences many important employee outcomes (Brown, Treviño, & Harrison, 2005; Mayer *et al*., 2009). It is important to focus on what makes followers perceive their leaders to be ethical leaders, because these individuals are responsible for formulating the organisation's policies and

objectives (Barnard, 1938); engage in organisational planning (Page & Tornow, 1987); and provide the organisation's strategic vision (Smidt, 1998). Leaders should therefore establish and communicate the organisation's value system and develop new leaders (House & Aditya, 1997; Ireland & Hitt, 1999; Jordan *et al*., 2011).

It has been proposed that followers form perceptions of their leader's ethical leadership through processes derived from social learning theory, including modelling and attractiveness (Bandura, 1977, 1986; Jordan *et al*., 2011). To be seen as a model of ethical leadership, one must be perceived as attractive and credible, as well as elicit attention from those in one's environment. Given their positions in organisations, leaders are often deemed legitimate models for normatively appropriate behaviour. Ethical leaders have the power to use the performance management system to consistently reinforce ethical conduct. Ethical leaders consequently influence their employees to engage in desired behaviour through rewarding ethical behaviour and punishing unethical behaviour (Jordan *et al*., 2011).

In addition to the direct influence of modelling leader behaviour and rewards and punishments, the role of vicarious learning is highlighted in the social learning theory. This theory exhilarates the notion that individuals learn what is expected of them and the norms for behaving appropriately, not only through their experience, but also by observing others (Bandura, 1977, 1986). Consequently, when leaders behave in an ethical manner; communicate the importance of ethics; and use punishment and reward systems to encourage ethical behaviour, group norms for acceptable behaviour are formed and employees in a work unit will be less likely to engage in unethical behaviour (Mayer *et al.,* 2012).

2.6 DEFINITION OF CORE ETHICAL VALUES

Strong basic values are extremely vital to guide leadership behaviour. Such values act as social constructs which allow leaders to make decisions about the direction in which to lead and how to proceed. Without values, otherwise effective leadership can be grossly destructive socially. In addition, ethical leadership begins with an understanding of and commitment to an individual's core values. An ethical leader should know his/her core values and should have the courage to live them in all parts of their life in service of the common good (Grace, 2003). At the centre of ethical leadership it has been found that people who want to become leaders who make a difference need to exhibit integrity and make a clear commitment to the common good (i.e. exhibit altruistic acts). Ciulla (2006) furthermore reasons that integrity and other strong ethical values are crucial to leadership. Taking the aforementioned into consideration, ethical leader values such as integrity and altruism will consequently be under investigation in this study.

2.6.1 Definition of integrity

Palanski and Yammarino (2007, p. 17) defined integrity as 'the consistency of an acting entity's words and actions'. The *acting entity* refers to an entity at any level of analysis (e.g. individual, group, or organisation). The aforementioned definition is similar to the definition of behavioural integrity describing integrity as the perceived pattern of alignment between an actor's words and deeds (Simons, 2002; Kannan-Narasimhan & Lawrence, 2012). Integrity can also be referred to as the consistency of leaders' personal beliefs and values, daily working behaviour and organisational aims (Badaracco & Ellsworth, 1989). Palanski and Yammarino (2007) classified the various meanings of integrity in the management literature into five main categories: 1) integrity as wholeness; 2) integrity as consistency between words and actions; 3) integrity as consistency in adversity; 4) integrity as being true to oneself; 5) and integrity as morality/ethics (including constructs such as honesty, trustworthiness, justice and compassion) (Palanski & Yammarino, 2009).

Concern has been raised about the overlapping of various definitions of integrity. The interchangeable use of the concept leads to considerable difficulty when trying to operationalise, measure, and test integrity (Palanski & Yammarino, 2007, 2009). Palanski & Yammarino (2007) proposed that this problem can be addressed by considering integrity as a virtue, which is defined as a discrete component of good character (Palanski & Yammarino, 2009). Such an approach provides a sound theoretical basis for establishing a distinct and usable conceptualisation of integrity. Based on the consideration of integrity as a virtue, Palanski and Yammarino (2007) recommend that the domain of integrity best fits the second category of the five noted above, i.e., integrity as consistency of words and actions. They argue that the other four categories of integrity (i.e., wholeness, being true to oneself, consistency in adversity, and morality/ethics) are previously established as other virtues in their own right (e.g., being true to oneself may be considered as the virtue of authenticity) (Panlanski & Yammarino, 2007).

Palanski and Yammarino (2007) emphasise that their proposed conceptualisation is based on a view of integrity as an adjunctive virtue, a virtue which is neither morally good nor morally bad but which is essential for achieving moral respectability (Palanski & Yammarino, 2009). Consequently, even an evil person may in their view be considered to have integrity. However, they explain that, based on the theory that morally good character consists of many virtues; one may suppose that integrity will be accompanied by morally good virtues (also known as substantive virtues) such as honesty and fairness (Palanski & Yammarino, 2009).

There are various perspectives on the significance of integrity, including being true to one's self, consistency, and morality/ethics (Fields, 2007; Palanski & Yammarino, 2007). In addition, some views suggest that followers distinguish between the degree to which a leader is true to him/her self and the degree to which he/she is true to others (Bass & Steidlmeier, 1999; Fields, 2007). Becker (as cited in Fields, 2007) furthermore suggested that the definition of integrity – to act according to a justifiable moral code – captures the essence of a leader being perceived as true to others, including followers. These perceptions that are formed are derived from assessing how the leader's behaviour towards others, including followers, reflects the moral character of the leader and the ethics inherent in the processes and choices directed by the leader (Bass & Steidlmeier, 1999; Fields, 2007). Judgments about a person's integrity are often based on the assertion that one cannot fake his/her underlying principles and values (Fields, 2007). In situations where followers are assessing the leader's integrity, consensus among the group members may be most important, since shared perceptions of followers form the socially constructed reality within organisational settings (Fields, 2007; Lamertz, 2002; Weick, 1993).

Integrity can also be defined as the commitment to moral principles. This commitment is reflected in people's ethical ideologies, which comprise an integrated system of beliefs, values, standards and self-definitions that define an individual's orientation towards matters of right and wrong (Miller & Schlenker, 2011; Schlenker, 2008; Schlenker, Miller & Johnson, 2009). Such an ideology offers a moral schema for evaluating events and a moral identity which portrays one's ethical character. High integrity can be defined by a principled ideology consisting of the notion that ethical principles have a trans-situational quality which should be followed regardless of personal consequences or rationalisations and that integrity is an inherently valuable component of one's identity (Miller & Schlenker, 2011). At the other hand, low integrity is defined by a practical ideology consisting of the ideas that moral principles are flexible in the sense that it is important to take advantage of profitable opportunities and foolish not to do so; that self-serving deviations from principles are usually justifiable; and that integrity, although important, is not a crucial component of one's identity (Miller & Schlenker, 2011).

A leader may indirectly influence followers' integrity in two ways: Firstly through trust, as a leader's integrity offers followers the certainty that their actions are based on their word. Followers will consequently be more likely to trust the leader and imitate similar levels of integrity. Secondly, a leader may influence a follower's integrity indirectly through setting group norms for integral behaviour. Leaders can influence follower integrity by shaping the formal policies and practices in a group setting (Grojean, Resick, Dickson & Smith, 2004).

Followers' compliance with the norms as outlined in the policy will depend on the leader's level of authority over the group. The value that a leader places on integrity is consequently reflected in the norms of the group.

Barnard, Schurink and De Beer (2008) conducted a study to explore the constructions of integrity of a small number of South African business leaders in a work context. The objective of the study was to develop a conceptual framework of integrity. Their findings signified the two most prominent *foundational drives of integrity*; the *moral compass* and the *inner drive*. It was found that people with high integrity can be described as people who have and live according to a core set of moral principles, of which some can be seen as universally accepted as a minimum standard for high integrity (Barnard *et al*., 2008). An individual's moral compass determines their propensity to stand firm on their values, beliefs and principles. Internalising integrity-related values, such as respect and empathy for others; the will to live a purposeful and meaningful life; an internal locus of control; and an optimistic and enthusiastic life approach, appears to be prerequisites for a moral compass. The level of one's integrity is also determined by one's inner wants, needs, aspirations and goals, as contained in the inner drive. The relationship between integrity and inner drive originally appeared positive in the sense that strong integrity was related to being internally motivated and to living congruently with one's inner wants, needs, aspirations and goals. The inner drive, however, acts as a potential threat to integrity due to the fact that personal wants, needs and aspirations may tempt one to act out of pure self-interest. Conversely, a poor sense of integrity is related to acting in self-interest, particularly when it is at the cost of others, or, more specifically, at the cost of integrity-related values within the moral compass (Barnard *et al*., 2008).

Another prerequisite of integrity that was identified is to live in congruence with one's inner drive, which relates to being authentic (Barnard *et al*., 2008). It is ironic, however, to relate a sense of high integrity with being authentic whilst relating poor integrity with behaviour motivated by self-interest. One cannot be regarded as authentic if one does not act according to one's inner wants and needs. Integrity is consequently driven by one's inner drive, as well as by one's moral compass, and one should be authentic with regard to both the foundational drives (Barnard *et al*., 2008). There is yet a potentially contradictory dynamic between the foundational drives of integrity that makes living authentically and with integrity a complex experience. To act from the moral compass may constitute more altruistic and other-focused behaviour at the cost of one's inner drive. Alternatively, being driven to act from one's inner drive may constitute more self-centred behaviour. It appears

that, to achieve integrity, one need to achieve a balance in living authentically in relation to the moral compass and inner drive (Barnard *et al.,* 2008).

Integrity was furthermore related to particular cognitive and affective functioning components. It is suggested that the functions of integrity facilitate a person's ability to balance the foundational drives of integrity (in other words the moral compass and inner drive) (Barnard *et al*., 2008). It is consequently proposed that moral intelligence and self-insight in addition to self-regard and a sensitive conscience facilitate integrity-related behaviour. The development of integrity can be rooted mainly in one's upbringing, through which parental and other significant role-models within a socio-cultural context shape the moral compass, inner drive and moral intelligence, self-insight, conscience and self-regard. Integrity should thus be regarded as an evolving trait that is developed and influenced by various contextual circumstances that range from childhood until death (Barnard *et al.,* 2008).

Integrity can therefore not be defined as an absolute construct. Although one may have integrity, it appears as if one is continually bombarded with experiences and choices in life that tax one's ability to retain integrity (Barnard *et al*., 2008). Even though integrity may ultimately be an evolving construct, people's integrity is judged by their day-to-day behaviour. The various behaviours that portray integrity have been called "competencies of integrity". The competencies of integrity can be seen as the behavioural consequences of living authentically in relation to one's moral compass and one's inner drive. These behaviours furthermore are accompanied by being morally intelligent; having self-insight; having a positive and rational self-regard; and being directed by one's conscience in relation to the moral compass (Barnard *et al.,* 2008).

In general, there are two perspectives on the concept of integrity (Six, Bakker & Huberts, 2007): firstly, the consistency or wholeness perspective which does not have an explicit moral component and, secondly, the moral perspective which stresses what is right and wrong (i.e., a moral component). From the consistency perspective, integrity is seen as embodying wholeness or completeness, and as representing the consistency and coherence of principles and values. Montefiore's (as cited in Six *et al.,* 2007) literature review recognises that the consistency perspective dominates the existing research. Brenkert (2004) is of the opinion that the consistency perspective lacks a 'moral filter', however. He asserts that integrity should involve more than simply doing what one says, but what one says and does must also pass through some moral filter (Brenkert, 2004). Similarly, McFall (1987) argues that the consistency perspective is deficient in a moral dimension (Six *et al*., 2007).

Personal integrity has been distinguished from moral integrity, implying that the concept of personal integrity has many similarities to the consistency approach. McFall (1987) argues that personal integrity requires that ‘‘an agent (1) subscribe to some consistent set of principles or commitments and (2), in the face of temptation or challenge, (3) upholds these principles or commitments, (4) for what the agent takes to be the right reasons’’ (McFall, 1987, p. 9). Nevertheless, if these were the only components of personal integrity required one can say that there would be many situations in which a person would meet the criteria for integrity, though he or she would still not be seen as acting morally (Six *et al*., 2007). Consequently, McFall (1987) suggests that there should be constraints on the content of a person’s principles or commitments before that person is seen as having integrity (Six *et al*., 2007).

Integrity, therefore, requires a moral component, referring to the second approach of the concept of integrity as the moral perspective, with different positions taken in relation to the consistency perspective. Some argue that integrity should not be based on the urges of the moment and that the law incorporates the relevant moral values and norms (Rohr, 1989; Six *et al*., 2007). This implicates that, if someone acts within the law, he or she acts with integrity. The law itself, however, does not provide a clear guiding principle in business decision-making processes. In addition, the rule of law can sometimes be in conflict to the moral values and norms of important stakeholders (Six *et al*., 2007).

The definition of integrity should finally be seen as acting in accordance with relevant moral values and norms (Fijnaut & Huberts, 2002; Six *et al*., 2007; Uhr, 1999) and the laws and rules (codes) resulting from them. This perspective presents a way of acting morally (Brenkert, 2004; Six *et al*., 2007). When judging integrity one should consequently take both the moral perspective and the moral component into consideration, as well as introduce the need for laws, rules, moral values, and norms (Six *et al*., 2007).

2.6.2 Definition of altruism

Altruism has been defined as behaviour intended to benefit others without the expectation of an external reward (Engelbrecht *et al.,* 2005; Kanungo & Mendonca, 1996). Altruism signifies the sacrifice of oneself to others. Altruistic acts in organisations concern voluntary behaviours (Kidwell & Page, 2011; Valentine, Godkin, Fleischmann) directly and intentionally aimed at helping individuals within an organisation (e.g. orientating newcomers) and promoting them to perform beneficial act towards others (Carmeli & Josman, 2006). It can be seen as a pro-social act towards other organisational members, such as helping with heavy

workloads, orienting new people, and assisting those who have been absent (Smith, Organ & Near, 1983)

There is broad agreement that altruism focuses on the benefit to others (O'Shea, 2004). Cialdini, Brown, Lewis, Luce & Neuberg (1997) introduced the concept of 'oneness' in which altruism occurs as 'others' become integrated into the helper's sense of self. This concept is relevant to leadership as leadership concerns influencing 'others' (followers) and altruism includes the dimension of 'others' into leader's definition of self. Altruism can be considered as a tool leaders use to influence followers towards the collective goal (Kanungo, 2001). A leaders' influence on followers is derived from the fact that followers perceive the leader's efforts to be selfless and their intent to be altruistic. As a result, followers will be attracted to and will aspire to identification with the leader. Kanungo and Mendonca (1996) reasoned that altruism drives leaders' capacity to grow; to be sensitive to the needs of followers; and to lead by being led. Altruistic leadership ultimately encourages and inspires people to use their human potential and energy in the best way, so that the organisation's purpose may be achieved (Engelbrecht *et al.*, 2005; Malan & Smit, 2001).

The effective organisational leader role involves moving the organisation from the status quo to a future desired goal. These leader behaviours can be performed in a set of three altruistic stages. In the first stage, the leader assesses the environment to identify the deficiencies in the status quo and the potential opportunities consistent with the organisation's resources and constraints, and the abilities, needs, and aspirations of organisational members. This leads to the second stage, the formulation and articulation of an idealised vision, which is discrepant from the status quo but embodies a perspective shared by organisational members. In the third stage the leader initiates steps to achieve the vision. The basic nature and thrust of these steps are strategies and interventions designed to empower the followers. The leader behaviours enable the followers to perceive that the leader is trustworthy and has the expertise and capacity to realise the vision (Kanungo & Mendonca, 1996). By analysing leaders' behaviours in the three stages in terms of altruistic dimensions, it could be concluded that these behavioural attributes can only be demonstrated by a leader who is motivated by a high degree of moral altruism.

The typical leader in the first stage (the environmental assessment stage) is characterised by heightened sensitivity to environmental opportunities and constraints, and to the needs of followers. A concern for the welfare of the organisation and its members is the primary preoccupation that underlies the behaviours demanded of a leader with altruistic characteristics. In the second stage (the vision formulation and articulation stage), the critical behaviours are the formulation of a shared but idealised future vision and the effective

articulation of this vision in an inspirational manner. The focus on both sets of behaviours is on others – the followers. When leaders advocate an idealised vision or future goal for the organisation, and influence followers to move forward towards it, they assume considerable personal risks. Their willingness to take these risks is largely prompted by a sense of altruistic mission (Kanungo & Mendonca, 1996). Effective leaders also reflect their altruistic motives in their own capabilities as well as in the capabilities of their followers to realise the vision. Through the expression of such beliefs, the leaders demonstrate their trust and confidence in their followers. It also provides followers with opportunities to assess the leader's selfless commitment to the vision (Kanungo & Mendonca, 1996). The focus on others is more evident in the third stage – the implementation stage. The intent of the behaviours in this stage is to motivate followers to achieve the vision by empowering them and developing their trust in the leader and the vision.

Altruistic leaders engage in modelling or exemplary acts, innovative and unconventional, that often involve great personal risks and sacrifices (Conger & Kanungo, 1988). These acts must be perceived by followers as originating out of a leader's sincere desire to move followers toward the attainment of the shared vision (Kanungo & Mendonca, 1996). Altruistic leaders can resultantly fulfil the effective organisational leader role by moving the organisation towards attaining goals which benefit both the organisation and its employees (Kanungo & Mendonca, 1996).

2.7 THE RELATIONSHIP BETWEEN ETHICAL CLIMATE AND LEADER EFFECTIVENESS

An ethical climate can be seen as a mechanism to oppose counterproductive work behaviour. The invisible ground rules of ethical climates protect organisations against pressures, opportunities, and predispositions that entice employees into unethical behaviour (Sims, 1992). Organisations with strong ethical climates communicate norms clearly in terms of moral issues to their employees (Bartels, Harrick, Martell & Strickland, 1998). An organisation that comprises a strong ethical climate is not a random occurrence. Why is it then that some organisations contain stronger ethical climates than others?

The mere existence of an ethics code of conduct does not guarantee ethical behaviour. It is essential, however, that the process of developing and communicating the code to all stakeholders be done in a transparent and consultative manner (Lloyd & May, 2010; Rossouw & Van Vuuren, 2010). It is important furthermore to ensure that the code is enforced throughout the organisation. Trevino and Neslon (as cited in Lloyd & May, 2010) asserted that failure to enforce the code will result in it losing its legitimacy and being perceived as window dressing. It has been proposed that the extent to which formal ethics

codes are enforced and adhered to in an organisation depends largely on the perceived legitimacy of these codes; the alignment between the codes and the organisational processes (e.g. performance management systems); and mainly on the presence of sound/effective leadership to model and reinforce desirable behaviours (Kuntz, Kuntz, Elenkov & Nabirukhina, 2013). Leadership is intrinsically bound up with questions of ethics and can hence be seen as a contributing factor in the manifestation of strong ethical climates (Eubanks, Brown & Ybema, 2012). Several studies have investigated the role of leaders in establishing ethical climates (Dickson, Smith, Grojean & Ehrhart, 2001; Grojean *et al.*, 2004; Simha & Cullen, 2011; Upchurch & Ruhland; Wimbush & Shepard, 1994).

Leaders influence the performance of employees and prohibit certain unwanted behaviour in the workplace (Henning, Theron & Spangenberg, 2004). Leaders may bring out or suppress the tendencies of organisational members to behave in an ethical or unethical manner. Individuals are hence more likely to act in unethical ways when justification for unethical behaviour is presented by a legitimate authority/organisational figure (Brief, Dietz, Cohen, Pugh & Vaslow, 2000). Positive perceptions of leaders' ethical conduct can therefore be regarded as pivotal for the development of an ethical climate which represents the organisation's mission and values (Brown, 2007; Pimentel *et al*., 2010). The investigation of a leader's characteristics, values and behaviours in relation to an organisation's values and practices becomes essential to better understand the emergence and maintenance of an ethical climate (Pimentel *et al*., 2010).

In addition, comprehensive models of leadership have identified key variables to explain effective leadership behaviour. In the framework for describing leader effectiveness one such a model contained the organisational climate as a major variable (Harshman & Harshman, 2008; Naddaff, 1997). Consequently, the effectiveness of leadership in preventing unethical behaviours may be realised through the process of improving an employee's perception of the work environment, which can be instilled through the leader's promotion of an ethical climate (Mayer, Kuenzi and Greenbaum, 2010; Neubert, Carlson, Kacmar, Roberts & Chonko, 2009). Mayer *et al*. (2010) found that leaders have direct influence on employees' perceptions of an ethical climate, which then reduces employee misconduct (Piccolo *et al*., 2012).

From the above assumptions and findings, the following can be postulated:

Substantive research hypothesis 1: A significant relationship exists between ethical climate and leader effectiveness.

2.8 RELATIONSHIP BETWEEN ORGANISATIONAL JUSTICE AND LEADER EFFECTIVENESS

Leaders are important sources of outcomes to followers as they make decisions regarding promotions, tenure, development opportunities, job assignments and resources. The perceived fairness of the leader in coming to all these decisions can be a salient consideration for followers and can have an influence on leadership effectiveness. According to leadership research, leader fairness positively contributes to leadership effectiveness (Van Knippenberg, De Cremer & Van Knippenberg, 2007; Van Knippenberg, 2011). It is expected of followers to be concerned about leader fairness since a core function of leaders is to carry the responsibility for decisions that directly and indirectly concern and affect followers (e.g., promotion decisions, pay increases, allocation of duties, etc.). In addition, fairness research has long recognised that the fairness of treatment received from authorities is an important influence on people's attitudes and behaviour (Adams, 1965; Thibaut & Walker, 1975; Van Knippenberg *et al*., 2007). The prediction for the effects of leader fairness is that leadership that is perceived to be fairer in terms of the outcomes received; in terms of the procedures used to arrive at these outcomes; or in terms of the quality of interpersonal treatment in this process, is more effective in engendering desirable follower attitudes and behaviour. The effectiveness of some aspects of leadership may be contingent on the extent to which leaders act fairly (Van Knippenberg *et al*., 2007). Based on evidence found for the main effects of leader distributive, procedural, and interactional fairness, it can be concluded that leader fairness is associated with leadership effectiveness.

It could hence be assumed that leaders who promote fair employee treatment (i.e. organisational justice) in the organisation will be perceived as effective leaders. We suggest that, besides overall ethical leadership, the specific dimensions of fairness and role clarification will contribute to perceptions of leader effectiveness (Kalshoven & Den Hartog, 2009).

From the above assumptions and findings, the following can be postulated:

Substantive research hypothesis 2: Organisational justice has a positive influence on the perceived effectiveness of the leader.

2.9 RELATIONSHIP BETWEEN ETHICAL LEADERSHIP AND LEADER EFFECTIVENESS

Leadership which can be seen as an individual's ability to influence, motivate and enable employees to contribute towards the effectiveness and success of an organisation (Yukl, 2010). The objective of leadership as a process of influence is to transform or change

followers' attitudes and values in the direction of goals, beliefs, and values inherent in the organisation's vision. Influence is consequently inherent to leadership, and powerful leaders can have a substantial impact on the lives of followers and the fortune of an organisation (Kanungo & Medonca, 1996).

Ethical leaders are viewed as attractive, credible, and legitimate role models who engage in normatively appropriate behaviour and make the ethics message salient and influence employee outcomes. Leaders cannot expect ethical behaviour from employees if they do not behave ethically themselves. Due to the fact that ethical leaders are perceived by their followers as legitimate and attractive role models who gain and retain their attention, they have a more effective influence on their followers. Over the years, characteristics of ethical leaders such as openness, fairness and consideration have been considered fundamental to perceived leader effectiveness (Brown *et al.,* 2005; Yukl, 2010). Employees will generally be more satisfied with leaders who discipline wrongdoers; who treat followers fairly and considerately; who are trust-worthy; and who exhibit transformational leadership behaviours (Brown *et al.,* 2005). Furthermore, explicit ethics-related communication and reinforcement can be seen to contribute to the salience of the leader's ethics message (Brown *et al.,* 2005). The ethics message can be communicated both through the ethical climate of the organisation, and through the leader's modelled behaviour.

Brown *et al*. (2005) and De Hoogh and Den Hartog (2008) also found positive correlations between ethical leadership and perceived leader effectiveness (Kalshoven & Den Hartog, 2009). Yukl (2013) confirmed that effective leadership signifies mobilising and influencing followers in the required direction. An effective leader furthermore influences followers to attain the goals of the organisation. Effective leaders work in an effective manner and go along with the work-related needs of the followers. This suggests that ethical leaders guide employees toward responsible goals and objectives, which benefit the organisation and its members (Kanungo, 2001).

In addition, employees, from a social learning perspective, are expected to identify with, admire, and emulate their ethical leaders and see them as role models of appropriate behaviour (Brown *et al*., 2005). Such role models are likely to be perceived as effective (Bandura, 1986; Kalshoven & Den Hartog, 2009). As role models, leaders set the tone in the organisation. Followers are likely to copy behaviours of the ethical leader, which again should positively influence effectiveness (Kalshoven & Den Hartog, 2009). Although only a few studies have been focused directly on ethical leadership and leader effectiveness, related research has suggested positive relationships. Ethical leaders feel highly responsible for their actions and it can be expected that followers will perceive them as effective

(Kalshoven *et al.,* 2011). In general, it can be assumed that ethical leaders will typically be experienced by their followers as effective.

The following hypothesis could hence be proposed:

Substantive research hypothesis 3: Ethical leadership has a positive influence on leader effectiveness in an organisation.

2.10 RELATIONSHIP BETWEEN ORGANISATIONAL JUSTICE AND ETHICAL CLIMATE

Organisational justice has become an increasingly important concern in today's rapidly changing work environment (Cohen-Charash & Spector, 2001; Colquit, Colon, Wesson, Porter & Ng, 2001; Fuchs & Edwards, 2012; Karriker & Williams, 2007; Konovsky, 2000). Organisational justice can be seen as the just and ethical treatment of individuals within an organisation and their behavioural reactions to such perceptions (Fernandes & Awamleh, 2006; Greenberg, 1993).

Fein (2013) examined the connection between ethical climate and justice perceptions. The theoretical rationale for this relationship existed through the notion that ethical climate perceptions embody norms regarding internal stakeholders. Ethical climate reflects patterns of typical interaction regarding ethical issues, specifically norms about the treatment of others. Consequently, employees within the organisation could be considered the most relevant stakeholders to the organisational climate. When employees communicate about ethical events, it furthers a joint sense-making process that results in the emergence of a shared understanding of ethical processes and typical behaviours. It is this shared understanding that often emerges as an ethical climate (Nicholson & Robertson, 1996). In this sense, individual justice perceptions can serve as antecedents to understandings of an organisation's ethical climate. To the extent that fairness and respect for individual outcomes are valued in an organisation, positive justice perceptions would be expected, at least in terms of interactional justice (Erdogan, Liden & Kraimer, 2006). Such perceptions can reasonably be expected to lead to changes in ethical climate (Nicholson & Robertson, 1996).

The notion that specific subtypes of ethical climate may be related to justice perceptions and similar constructs such as facets of job satisfaction is another focal point of the link between ethical climate and justice perceptions. Empirical support for connections between ethical climate and satisfaction with the distribution of valued outcomes such as promotion and pay has been noted by several researchers (Tsai & Huang, 2008).

It could consequently be presumed that ethical climates exist in organisations where fair and ethical treatment of all employees is valued. An organisation's ethical climate is hence seen as intricately tied to its perceived organisational justice. The following hypothesis could hence be proposed:

Substantive research hypothesis 4: Organisational justice has a positive influence on an ethical climate in an organisation.

2.11 RELATIONSHIP BETWEEN ETHICAL LEADERSHIP AND ETHICAL CLIMATE

The influence that ethical leaders have on the development of organisational ethical climates has been widely researched (Sinclair, 1993; Brewster, Carey, Grobler, Holland & Wärnich, 2000; Dickson *et al.,* 2001; Grojean *et al.,* 2004; Stouten, Van Dijke & Cremer, 2012). Ethical leaders should earn credibility through the way in which they position their organisations, as well as their ability to organise a variety of human capacities to work together successfully. Treviño, Butterfield and McCabe (1998) stated that contextual factors have practical significance to managers as they have more control over the work environment than they do over individuals' values or moral development. Their control over the environment can only be effective if it is energised by an ethical climate that encourages the loyalty and commitment of all personnel, and helps them to achieve the aims of the organisation. This could be done through the following activities: creating a vision; developing an overall corporate strategy; and instilling new values in employees. Within the work context, establishing and managing proper communications between managers and employees can be seen as an essential leadership activity (Brewster *et al.,* 2000). Ethical leaders' behaviour can hence be seen as a critical determinant of an organisation's ethical climate, as they are not responsible for the financial success of organisations only, but also for instilling moral values and ethical standards in their subordinates (Mautz & Sharaf, 1961).

An organisation's ethical climate should hence be representative of the leader's commitment to ethical principles and values expressed in their daily struggle to live by them (Engelbrecht *et al*., 2005; Kanungo & Mendonca, 1996). Ethical leaders who take strong personal stands on the need for ethical behaviour will contribute to an ethical climate (Engelbrecht *et al.,* 2005; Matthews, 1987). An ethical leader serves as a role model of ethical acceptable behaviour and how ethical problems and questions should be addressed (Dickson *et al.,* 2001; Nielsen, 1989). An ethical leader additionally provides cues about what is ethical by explicitly rewarding and punishing certain behaviours (Dickson *et al.,* 2001; Hegarty & Sims, 1978, 1979; Trevino, 1986). An ethical leader consequently determines the organisational climate, through the development of organisational policies and practices (Burns & Stalker,

1961; Dickson *et al.,* 2001). From the above assumptions and findings, the following can be postulated:

Substantive research hypothesis 5: Ethical leadership has a positive influence on an ethical climate in an organisation.

2.12 RELATIONSHIP BETWEEN ETHICAL LEADERSHIP AND ORGANISATIONAL JUSTICE

Employees expect to be treated fairly and justly in all aspects of their work. The costs of perceived unfair employee treatment can be extremely high for organisations. Even though the costs of unfair employee treatment are difficult to compute, employees' perceptions of inequitable treatment are strong predictors of job absenteeism and turnover. The costly results of unfair treatment of employees may include lower production quantity, lower morale, lack of cooperation, spreading dissatisfaction to co-workers, fewer suggestions and less self-confidence (Grobler *et al*., 2006).

In contrast, employees who perceive fair treatment will perceive managements' decisions as legitimate and understandable (Buckley *et al*., 2001). The three different aspects of organisational justice can be seen as intertwined with ethical leadership, as many of the decisions that ethical leaders make concern issues of fairness. The leaders of the organisation should assume responsibility for the fair distribution of outcomes and workloads provided to their employees (i.e., distributive justice). They should furthermore utilise fair formal processes and procedures to determine employees' outcome decisions (i.e., procedural justice). Lastly, ethical leaders should treat their employees with politeness, dignity and respect in performing procedures or determining outcomes (i.e., interactional justice). The decisions that leaders make should ultimately reflect fair treatment and concern for all employees' welfare (Tatum *et al*., 2003). Opportunities for subordinates to express their opinions heighten perceptions of fairness, as well as evaluations of supervisors' leadership capabilities (Tyler & Bies, 1990).

Leaders should serve as role models who exhibit ethically acceptable behaviour and addresses ethical issues (Nielsen, 1989). Additionally, leaders' ethical behaviour is demonstrated in their explicit rewarding and punishment of certain behaviours (Hegarty & Sims, 1978, 1979; Trevino, 1986). According to Northouse (2001) ethical leaders are concerned with issues of fairness and justice in their attempt to treat all employees equally. Justice necessitates leaders to perform fair decision-making processes. When individuals are treated differently, the grounds for the dissimilar treatment must be clear, reasonable, and based on sound moral values. Ethical leaders can essentially be described as honest,

trustworthy, fair and caring leaders who make principled and fair choices and structure their work environments justly (Brown *et al.,* 2005; De Hoogh & Den Hartog, 2008). In creating a fair and trustful environment, ethical leaders consequently stimulate ethical and pro-social employee behaviours in organisations (Mayer *et al*., 2009; Stouten *et al*., 2012; Walumbwa & Schaubroeck, 2009). From the aforementioned assumptions, the following hypothesis can be postulated:

Substantive research hypothesis 6: Ethical leadership has a positive influence on organisational justice in an organisation.

2.13 RELATIONSHIP BETWEEN INTEGRITY AND ETHICAL LEADERSHIP

Leader integrity gained increasing importance in the recent years of organisational research and practice (Craig & Gustafson, 1998; Den Hartog & De Hoogh, 2009; Engelbrecht & Cloete, 2000; Engelbrecht *et al.,* 2005; Grojean *et al*., 2004; Kannan-Narasimhan & Lawrence, 2012; Palanski & Yammarino, 2007; Resick *et al.,* 2006; Simons, 2002;). The consistency of a leader's personal beliefs and values, daily working behaviour and organisational aims can be referred to as integrity. Integrity is seen as a fundamental component of character (Petrick & Quinn, 1997) that entails the ability to both determine and engage in morally correct behaviour. Acting fairly and in a trustworthy manner has been demonstrative of employees' integrity levels (Den Hartog & De Hoogh, 2009).

Resick *et al*. (2006) recognised integrity as a key attribute of ethical leadership. Ethical leaders' personal conduct is a determining factor in the effective employment of codes, policies, procedures and support structures. These leaders will communicate their values and standards most directly through their consistent actions, how they direct their attention, respond to problems and formulate strategies (Cohen, 1993). Ethical leaders' consistency in decisions and behaviour displays their dependability and trustworthiness, and gives meaning and significance to routine activities at the workplace (Engelbrecht & Cloete, 2000; Engelbrecht *et al.,* 2005). Fair leader behaviours hence are related to ethical leadership, as ethical leaders make principled and fair choices; are trustworthy and honest; do not practice favouritism; treat others with respect; and structure work environments justly (Treviño *et al*., 2003). Brown *et al*. (2005) suggested that ethical leaders' main purpose is to develop ethical followers by intentionally acting as role models and utilising reward systems as incentives for ethical behaviour. Leaders who display high integrity behaviour are consequently likely to develop followers who display high integrity behaviour.

To be optimally effective, ethical leaders should be perceived by followers as displaying a level of integrity consistent with followers' expectations (Craig & Gustafson, 1998;

Engelbrecht *et al*., 2005). Leaders with integrity will aspire to be consistent and coherent in terms of what they believe; how they lead; and the type of organisations they want to build (Badaracco & Ellsworth, 1991; Engelbrecht *et al*., 2005). Leaders should thus match their ethical talk by living and not merely promoting the organisation's value system and design. They should personally demonstrate commitment and loyalty to the organisation by behaving and leading with integrity, consistency and congruency (Malan & Smit, 2001). The ethical environment will resultantly reflect the soul of the organisation and enable employees to internalise the values which create the firm foundation for ethical behaviour (Kanungo & Mendonca, 1996). The following hypothesis can thus be postulated:

Substantive research hypothesis 7: Integrity has a positive influence on ethical leadership in an organisation.

2.14 RELATIONSHIP BETWEEN ALTRUISM AND ETHICAL LEADERSHIP

Altruism, as a principle of moral behaviour which is highly regarded in all cultures as the essence of sound moral values, has received broad recognition and consideration in various research projects throughout the years (Bass & Steidlmeier, 1999; Burns, 1978; Carmeli & Josman, 2006; Cialdini *et al*., 1997; Conger & Kanungo, 1988; Engelbrecht *et al*., 2005; Kanungo & Mendonca, 1996; Kanungo, 2001; Malan & Smit, 2001; O'Shea, 2004; Rost, 1991; Valentine *et al*., 2011).

By attending to goals and purposes of the broader community, altruistic leaders can also be seen as ethical leaders (Rost, 1991). Ethical leaders seek to establish higher and broader moral purposes (Burns, 1978). Their individual and group goals are in conjunction with the common good and public interest. Worchel, Cooper, and Goethals (as cited in Ciulla, 2004) defined altruism as acts that "render help to another person" (p. 394). If altruism is nothing more than helping people, then it is a more manageable standard, but simply helping people is not necessarily ethical. It depends on how you help them and what you help them do. Ethics is about the relationship of individuals to others (Ciulla, 2004). An ethical leader who is concerned with the moral common good in the broadest sense – by paying attention to how proposed changes will affect the larger organisation, the community, and society – can be regarded as altruistic. Ethical leaders can be regarded as altruistic if they are attentive to the moral interests of the community and the culture and resultantly demonstrate an ethic of caring towards others (Bass & Steidlmeier, 1999). Consequently, it can be postulated that:

Substantive research hypothesis 8: Altruism has a positive influence on ethical leadership in an organisation.

2.15 PROPOSED STRUCTURAL MODEL

The above-mentioned hypotheses could be depicted into the structural model as represented below in Figure 2.2. A structural model illustrates the manner in which latent variables are causally related to other latent variables which characterise the phenomenon of interest. The structural model serves as an explanation for the observed covariance/correlation matrix; it describes/portrays the process that brought about the correlation/covariance matrix. In order to obtain support for the structural model, the final model parameter estimates should successfully reproduce the observed covariance/correlation matrix (Theron, 2012). The presence of structural error terms in the structural model are represented by the Greek symbol ζ_i [zeta] explaining variance in the endogenous latent variables η_i. In addition, the Greek symbol φ [phi] represents the variance in and covariance between the exogenous latent variables ξ_i and ξ_j.

2.16 SUMMARY

This chapter presented a theoretical and empirical review of integrity, altruism, ethical leadership, organisational justice, ethical climate, and leader effectiveness. Emphasis was placed on the various definitions found in the literature and how these constructs are related and possible hypotheses were developed from the research conducted on the relationships of the constructs in this study. The following chapter focuses on the research methodology used to empirically measure the credibility of the proposed hypotheses.

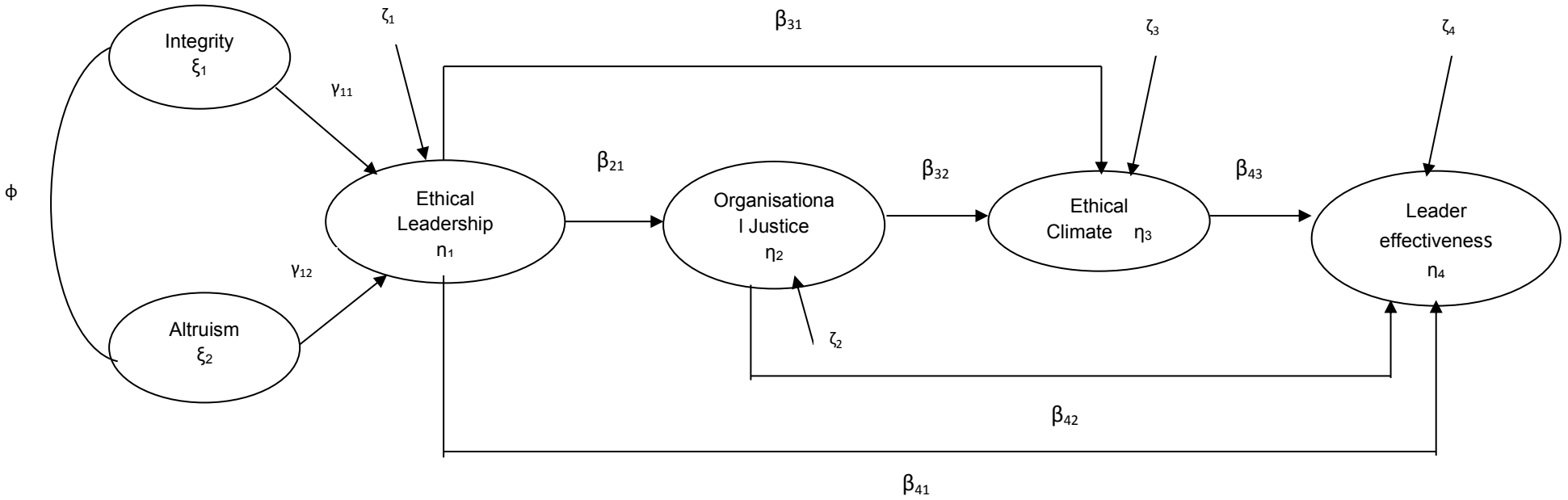

Figure 2.2: A theoretical model of the structural relationships between ethical leadership and leader effectiveness

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology serves the epistemic ideal of science, meaning that the methodology of this study should ensure that valid conclusions are reached on the validity of the hypothesised structural model. Research methodology serves the epistemic ideal through two characteristics of the scientific method; objectivity and rationality (Babbie & Mouton, 2001). Scientific objectivity refers to the conscious, explicit focus on the reduction of error. Science is rational in the sense that it provides an opportunity for subject matter experts, academics and theorists to critically evaluate the research findings and the validity of the proposed contribution to the body of knowledge by evaluating the methodological rigour of the process utilised to arrive at the conclusions (Babbie & Mouton, 2001). To serve the epistemic ideal of science, the methodological choices that were made in this study will be provided with a comprehensive description and systematic motivation. This would allow knowledgeable peers to identify any flaws in the methodology, as well as their implications on the validity of the conclusion (Burger, 2011). Consequently Chapter 3 provides a thorough description and motivation of the research methodology used to empirically evaluate the validity of the ethical leadership and leader effectiveness structural model developed in Chapter 2.

3.2 SUBSTANTIVE RESEARCH HYPOTHESES

Science insists that the theoretical position developed through theorising should be empirically tested to establish the validity of the overarching research hypothesis. The overarching substantive research hypothesis was formulated to provide an answer to the question initiating the research in terms of the structural model derived through theorising (Theron, 2012). The overarching substantive research hypothesis (i.e. hypothesis 1) of this study is that the ethical climate structural model depicted in Figure 2.2 provides a valid description of the manner in which the core ethical values, ethical leadership, organisational justice and ethical climate combine to affect leadership effectiveness. The validity of the statements made by the leader effectiveness structural model is evaluated in this study. The overarching substantive hypothesis of the study can be dissected into the following eight path-specific substantive research hypotheses:

Substantive research hypothesis 2: A significantly positive relationship exists between *ethical climate* (η_3) and *leader effectiveness* (η_4).

Substantive research hypothesis 3: A significantly positive relationship exists between *organisational justice* (η_2) and *leader effectiveness* (η_4).

Substantive research hypothesis 4: A significantly positive relationship exists between *ethical leadership* (η_1) and *leader effectiveness* (η_4).

Substantive research hypothesis 5: A significantly positive relationship exists between *organisational justice* (η_2) and *ethical climate* (η_3).

Substantive research hypothesis 6: A significantly positive relationship exists between *ethical leadership* (η_1) and *ethical climate* (η_3).

Substantive research hypothesis 7: A significantly positive relationship exists between *ethical leadership* (η_1) and *organisational justice* (η_2).

Substantive research hypothesis 8: A significantly relationship exists between *integrity* (ξ_1) and *ethical leadership* (η_1).

Substantive research hypothesis 9: A significantly positive relationship exists between *altruism* (ξ_2) and *ethical leadership* (η_1).

3.3 RESEARCH DESIGN

To empirically evaluate the validity of the overarching substantive hypothesis and the array of path-specific research hypotheses depicted in Figure 2.2., a strategy was required to guide the process of gathering empirical evidence to test the hypotheses (Babbie & Mouton, 2001). Empirical evidence for the structural relations can be obtained through a strategy known as a research design, which can be described as the plan, guideline or blueprint through which research will be conducted (Babbie & Mouton, 2001). The research problem and type of evidence required to address the problem will determine the appropriate research design.

The research design is utilised as a means to procure answers to the research initiating question and to also control variance. An *ex post facto* correlational research design was employed in this study to test the various substantive hypotheses. The variance in this study was controlled by maximising systematic variance, minimising error variance, and controlling extraneous variance. This provided the researcher with empirical evidence that could be interpreted reasonably unambiguously for or against the substantive research hypotheses (Theron, 2012).

This research design is a systematic empirical inquiry in which the researcher does not have direct control of the independent variables, as their manifestations have already occurred or because they fundamentally do not allow being manipulated. As a result, experimental manipulation and random assignment is not possible during employment of the ex post facto research design. This design attempts to discover what happens to one variable as the other variable changes. The nature of the specific research design prevents the drawing of causal inferences from significant path coefficients, as correlations do not suggest causation (Theron, 2012).

The logic in terms of which the ex post facto design tests the validity of the hypothesised structural model lies in the way in which the correlational design obtains measures on the observed variables[1] and estimates the observed p x p covariance matrix (Kerlinger & Lee, 2000). Estimates for the freed structural and measurement model parameters were obtained in an iterative manner in order to reproduce the observed covariance matrix as closely as possible (Diamantopoulos & Siguaw, 2000). If the comprehensive LISREL model, for instance, failed to accurately reproduce the observed covariance matrix (Diamantopoulos & Siguaw, 2000; Kelloway, 1998) it could be concluded that the model did not provide an acceptable explanation for the observed covariance matrix. This would indicate that the model's structural relationships did not provide an accurate portrayal of the structural relations that exist between the latent variables and between the latent variables and the indicator variables. A high degree of fit would imply that the structural relations as portrayed in the structural model do serve as a plausible explanation for the observed covariance matrix (Theron, 2012).

The value of this research design lies in the fact that most research in the social sciences fail to lend itself to experimentation. Even though in a limited number of cases controlled inquiry is possible, experimentation is not a feasible option in this case. The ex post facto correlation design hence was extremely valuable in this case, despite its problem in controlling extraneous variance (Kerlinger & Lee, 2000).

3.4 STATISTICAL HYPOTHESES

The statistical hypotheses are formulated in a manner that depicts the logic underlying the proposed research design, as well as the nature of the envisioned statistical analyses. The overarching substantive research hypothesis of this study proclaims that the leader effectiveness structural model in Figure 2.2 provides a valid description of the manner in

[1] Observed variables represent the measured indicator variables used to operationalise the latent variables in the model. P represents the number of observed variables.

which the core ethical values, ethical leadership, organisational justice and ethical climate combine to affect leadership effectiveness. If the overarching substantive hypothesis as depicted by the structural model is interpreted to mean that the structural model provides a perfect account of the manner in which ethical leadership, organisational justice and ethical climate affect leader effectiveness, the substantive hypothesis translates into the following exact fit null hypothesis (Theron, 2012):

H_{01}: RMSEA= 0[2]

H_{a1} RMSEA > 0

If the overarching substantive hypothesis as depicted by the structural model is, however, interpreted to mean that the manner in which the structural relations produce variance, provides an approximate account of the variance as exhibited in the leader's effectiveness, the substantive hypothesis could be translated to the following close fit hypothesis:

H_{02} RMSEA ≤ 0.05

H_{a2} RMSEA > 0.05

The overarching substantive research hypothesis was separated into eight more detailed, specific substantive research hypotheses. These eight detailed research hypotheses translate into the path coefficient statistical hypotheses in Table 3.1:

Table 3.1

Path Coefficient Statistical Hypotheses

Hypothesis 3:	Hypothesis 4:	Hypothesis 5:	Hypothesis 6:
H_{03}: $\beta_{43} = 0$ H_{a3}: $\beta_{43} > 0$	H_{04}: $\beta_{42} = 0$ H_{a4}: $\beta_{42} > 0$	H_{05}: $\beta_{41} = 0$ H_{a5}: $\beta_{41} > 0$	H_{06}: $\beta_{32} = 0$ H_{a6}: $\beta_{32} > 0$
Hypothesis 7:	Hypothesis 8:	Hypothesis 9:	Hypothesis 10:
H_{07}: $\beta_{31} = 0$ H_{a7}: $\beta_{31} > 0$	H_{08}: $\beta_{21} = 0$ H_{a8}: $\beta_{21} > 0$	H_{09}: $\gamma_{11} = 0$ H_{a9}: $\gamma_{11} > 0$	H_{010}: $\gamma_{12} = 0$ H_{a10} $\gamma_{12} > 0$

[2] The numbering of the statistical hypothesis reflects the fact that the success with which the latent variables in the ethical leadership and leader effectiveness structural model have been operationalised is evaluated by testing the exact and close fit of the measurement model prior to fitting the comprehensive LISREL model.

3.5 SAMPLE AND SAMPLING DESIGN

The purpose of sampling is to select a representative set of individuals from the target population in the research study (Gravetter & Forzuno, 2003). To do so requires that the target population be operationalised as a sampling population. A sampling population consists of those final sampling units in the target population that have a positive, non-zero probability of being selected in the sample (Babbie & Mouton, 2001).

A representative sample was required for this study as it is not possible to obtain measurements from each subject in the target population. Sampling refers to taking a portion of a population as representative of that population (Kerlinger & Lee, 2000). The extent to which the observations can be generalised to the target population and the power of the inferential statistics tests depends on the number of subjects in the chosen sample, and the representation of the sample. A chosen sample will only be considered representative in the extent to which it provides an accurate statistical portrayal of the characteristics of the sampling population (Theron, 2012). The ideal is for the sampling and target populations to coincide. As this is seldom the case, the objective therefore should be to try and minimise the gap between the target and sampling populations.

3.5.1 Choice of sampling method

Methods of sampling can be categorised as either probability sampling or non-probability sampling (Kerlinger & Lee, 2000). A brief discussion of the advantages and disadvantages of the two categories follow below to explain the choice and evaluation of the sampling method used in this study.

3.5.1.1 Probability sampling methods

The ultimate purpose of sampling can be seen as to select a set of final sampling units (FSU) from a population in such a way that descriptions of the statistical characteristics of specific attributes of those sampling units (in terms of statistics) accurately portray the parameters of the total population from which the FSUs are selected (Babbie & Mouton, 2001). Probability sampling enhances the likelihood of accomplishing this aim and also provides methods for establishing the degree of possible success. In probability sampling, the entire (sampling) population is known, each individual in the population has a specific non-zero probability of selection, and sampling is done by a random process based on the probabilities (Gravetter & Forzano, 2003).

According to Kerlinger and Lee (2000), random sampling can be utilised as a method to draw a sample from a population so that all possible samples of fixed size n have the same

probability of being selected. In stratified sampling, the population is divided into strata, such as men and women. Multi-stage cluster sampling is the most used method in surveys, and involves successive random sampling of units, or sets and subsets (Kerlinger & Lee, 2000).

During systematic sampling, the first sample element is randomly chosen in the first interval of length k and, following on that, every kth FSU is selected from every interval. For example, if the element randomly selected from the elements 1 through 10 is 6, then the subsequent elements are 16, 26, 36 and so on (Babbie & Mouton, 2001).

3.5.1.2 Non-probability sampling methods

According to Gravetter and Forzano (2003), in non-probability sampling procedures, the population is not completely known; individual probabilities cannot be known; and the sampling method is based on factors such as common sense or ease, with an effort to maintain representativeness and avoid bias. In quota sampling, knowledge of strata of the population (e.g. sex, race, religion) is used to select sample members that are considered to be representative, 'typical' and suitable for certain research purposes (Babbie & Mouton, 2001). Purposive sampling is characterised by the use of judgment and a deliberate effort to obtain representative samples by including presumably typical areas or groups in the sample (Babbie & Mouton, 2001). Kerlinger (as cited in Van Heerden, 2012) describes accidental sampling as the weakest form of sampling but also states that it is probably the most frequently used. In effect, during accidental sampling the researcher takes available samples at hand.

3.5.2 Data collection procedure

Non-probability convenience/availability sampling (i.e., a non-probability sampling technique) was employed in this study (Babbie & Mouton, 2001). This technique implies that individuals who presented their availability for the study were selected. Various organisations were approached by email to request institutional permission to conduct the research study in the organisation. Due to the non-probability sampling procedure that was used to select the sample it cannot be claimed that the sample is representative of the target population. Although, admittedly, it would have been preferable to conduct the study on all the employees at a particular organisation, the reality is that institutional permission can restrict one to a certain department only. The identities of the organisations who participated in the study are not disclosed in this study to ensure the confidentiality of the information which might affect their company image.

Based on the above-mentioned, the proposed structural model and the proposed procedure for operationalising the latent variables, the target population for this study comprised all

first-line/non-managerial employees in South African organisations. The follower is consequently the only unit of analysis in this study (i.e. the follower can be seen as both the research subject and the research participant).

To ensure the validity of the study, it was decided to include organisations with more than 30 employees in the research, as well as an overall sample of at least 200 employees. The research hypotheses developed in Chapter 2 and listed in Chapter 3 were empirically tested using a sample of 224 respondents. The sample consisted of employees operating in two organisations in South Africa in order to test the hypotheses that a follower's perception of his/her leader's ethical leadership ability determines the follower's perceived organisational justice and his/her perceived ethical climate.

Institutional permission was obtained from the two organisations involved in this study. The two organisations were primarily based in the Western Cape, although the one organisation made use of their Gauteng branch to complete the questionnaires. A questionnaire designed to gather data was distributed through the internet and was sent to the identified participants. Data were also collected by means of paper-and-pencil tests which were distributed to employees who did not have internet access. Participants were required to accept the conditions specified in the instructions for the questionnaire. Participants were assured that confidentially would be maintained by treating their responses as anonymous and that no names would be revealed in the study (See Appendix B for informed consent form). Participants were also guaranteed that the study envisaged no potential risks or discomfort and those responses would not be revealed to managers, but would be stored directly on the Stellenbosch University database.

3.5.3 Demographic profile of the sample

The overall sample consisted of 159 males (71%) and 65 females (29%). The sample presented an average age of 29.58 years, with the majority (68.8%) of respondents aged between 20 and 30. The race distribution of the sample was as follows: African (75%), Coloured (6.7%), Indian (2.7%), White (14.7%) and Other (0.9%). The sample was also compiled from respondents from different companies and industries. The majority of respondents came from non-managerial (64.3%) and lower-level management (21.4%) and mainly from the retail industry (97%). The health and welfare services (2.68) and financial industries (.4%) were also represented in the sample, but in smaller numbers. These descriptive statistics are presented in Table 3.2.

Table 3.2

Demographic variables

DEMOGRAPHIC VARIABLES	N	% IN SAMPLE
Gender		
Male	159	71
Female	65	29
Age		
Below 20	0	0
21 – 30	154	68.8
31 – 40	51	22.7
41 – 50	13	5.8
Above 50	6	2.7
Race distribution		
African	168	75
Coloured	15	6.7
Indian	6	2.7
White	33	14.7
Other	2	0.9
Employment		
Full-time	138	61.6
Temporary	86	38.4
Job level		
Non-managerial	144	64.3
Lower level management (First line manager)	48	21.4
Middle level management	28	12.5
Upper level management (Senior manager)	4	1.8
Industry		
Manufacturing	0	0
Retail	217	96.9
Financial Services	1	0.4
Construction	0	0
Health and Welfare Services	6	2.7
Other	0	0

3.6 MEASURING INSTRUMENTS

Measures of the exogenous and endogenous latent variables comprising the ethical climate structural model are needed in order to obtain empirical evidence that the relationships postulated by the structural model provides a valid description of the manner in which the core ethical values, ethical leadership, organisational justice and ethical climate combine to

affect leadership effectiveness. In other words, the research hypotheses as expressed above had to be operationalised by creating an exogenous and an endogenous measurement model (Theron, 2012). Operationalisation of the latent variables entails the creation of empirically measurable observed/indicator variables. Operationalising the latent variables in the structural model creates two additional measurement models (an endogenous and exogenous model) which results in a comprehensive LISREL model when integrated with the structural model (Theron, 2012).

Effect indicators were used to represent the latent variables. In order to improve the likelihood that the operationalised structural model would be identified, the requirement was to have at least two or more indicator variables per latent variable. The two measurement models describe how the exogenous and endogenous latent variables reflect themselves in indicator/observed variables. To come to valid conclusions on the ability of the effective ethical leadership structural model, evidence is needed, however, that the indicator variables are indeed valid and reliable measures of the latent variables they are linked to in accordance with the measurement models (Diamantopoulos & Siguaw, 2000).

The following measurement instruments were used in this study to operationalise the latent variables in the model and to test the structural relations hypothesised by the model.

3.6.1 Leader effectiveness

A 5-item Leader Effectiveness Questionnaire (LEQ) was developed for the purpose of this study (Engelbrecht, 2013). Three items were adapted from Bass and Avolio's (1989) MLQ and the other two were developed by Engelbrecht (2013). The items in the LEQ focus on motivating team performance beyond expectations; meeting team objectives; effective team representation by the leader; team members' satisfaction with their leader; and followers' perceived overall effectiveness of the leader.

3.6.2 Ethical climate

Ethical climate in the organisations was measured by the original Ethical Climate Questionnaire (ECQ) of Victor and Cullen (1988) which consists of descriptive statements originally designed to describe the various dimensions of ethical work climate. The ECQ originally consisted of 36 items respectively from the five ethical climate dimensions, namely caring, law and code, rules, instrumental and the independence dimensions. Only 19 items from four of the ethical climate dimensions (i.e., caring, law and code, rules and independence) were utilised for the purpose of this study. These items comprised seven

items from the caring dimension, four items from the law and code dimension, four items from the rules dimension and four items from the independence dimension.

The ECQ items were administered on a 6-point scale with responses ranging from 'disagree strongly' to 'agree strongly.' Respondents were asked to evaluate the extent to which each item was true of their departments/organisations. The instruments placed respondents in the role of observers reporting on and evaluating the perceived ethical climates, rather than focussing on whether respondents perceive the ethical climates as being good or bad (Victor & Cullen, 1988; Cullen, Victor & Bronson, 1993). The internal consistencies (Cronbach's alpha) of the four sub-scales were as follows: the caring, law and rules sub-scales all had high alpha coefficients (.92, .88, and .85 respectively). The independence (alpha = .69) scale was relatively lower, yet sufficient for establishing internal consistency (Nunnally, 1978; Wimbush *et al*., 1997).

3.6.3 Organisational justice

Organisational justice was measured by Niehoff and Moorman's (1993) 21-item justice scale. In addition, one item from Colquitt *et al.'s* (2001) scale was also included in the justice scale. The additional item focuses on the sustaining of ethical and moral standards by the leader (Colquitt *et al*., 2001).

Niehoff and Moorman's (1993) justice scale consists of one dimension measuring perceptions of distributive justice and two dimensions measuring perceptions of procedural justice. Distributive justice was measured using five items assessing the fairness of different work outcomes, including pay level; work schedule; work load; and job responsibilities. Procedural justice was measured with items designed to tap both formal procedures and interactional justice. Formal procedures (seven items) measured the degree to which job decisions included mechanisms that insured the gathering of accurate and unbiased information; employee voice; and an appeals process. Interactional justice (nine items) measured the degree to which employees felt their needs were considered in, and adequate explanations were made for, job decisions. This scale was based on one used by Moorman (1991) and reported reliabilities above .90 for all three dimensions. All items used a six-point response format.

3.6.4 Ethical leadership

Ethical leadership was measured by the revised 17-item Leadership of Ethics Scale (LES) which was developed by Engelbrecht and Heine (Heine, 2013). The objective of the LES was to develop an ethical leadership measure that can be differentiated conceptually from a

measure of behavioural integrity (one of the latent variables of this study). The revised LES was based on items from different measures of ethical leadership (Brown, Trevino & Harrison, 2005; Mayer *et al*., 2012; Spangenberg & Theron, 2005; Yukl, Mahsud, Hassan & Prussia, 2011).

One item from Mayer *et al*. (2012) was included in the revised LES. This item measures the extent to which the leader treats his/her followers with respect.

Nine items from the Ethical Leadership Scale (ELS) developed by Brown *et al*. (2005) were included in the revised LES. The ELS combines different leader behaviours such as acting fairly and rewarding ethical conduct.

Three items from the Ethical Leadership Inventory (ELI) were integrated in the revised LES. The ELI developed by Spangenberg and Theron (2005) place emphasis on the ethical vision of an ethical leader. The three items of this scale were included because they introduce the dimension of an ethical vision and the transferring of ethical leadership into the organisation (Heine, 2013).

Four items from Yukl *et al*. (2011) were also included in the revised LES. The four items included in the LES elaboration on the ethical practices of ethical leaders and were therefore considered appropriate to contribute to the constitution of the final questionnaire (Heine, 2013).

The LES has high reliability and was assessed and confirmed through exploratory and confirmatory factor analyses (Heine, 2013). The Cronbach's alpha of the LES was reported to be .97, indicating a high level of internal consistency. It can be regarded as highly satisfactory as it considerably exceeded the recommended value of 0.70 (Nunnally, 1978).

EFA confirmed the uni-dimensionality of the LES. All 17 items in the LES loaded satisfactory (> 0.50) on the single underlying factor. Through examination of Heine's (2013) CFA results, it was found that the null hypothesis of close fit for the refined LES measurement model was not rejected (H_0: RMSEA ≤ 0.05). This is an indication that the measurement model fits the data well and that the quality of the fit is good.

3.6.5 Integrity

Integrity was measured by the 20-item Behavioural Integrity Survey (BIS) originally developed by Engelbrecht and Heine (as cited in Heine, 2013) and further revised by Engelbrecht and Wolmarans (2013) for the purpose of this study. The items in the revised BIS (BIS-R) place emphasis on the consistency, promise fulfilment, fairness, trustworthiness

and honesty the leader should regard as important in order to exhibit integrity (Palanski & Yammarino, 2007).

Ten items from various measures assessing different dimensions of integrity were adapted and included in the BIS-R. These were from Butler (1991) (four items), Bews (2000) (one item), Kalshoven *et al*. (2011) (one item), Ferris & Travaglione (2003) (one item), Dietz & Den Hartog (2006) (two items) and Avolio *et al*. (2008) (one item).

An additional item was developed by Engelbrecht (2013) for inclusion in the BIS-R, accentuating the role of conscientiousness in integrity.

The nine items of the BIS (Heine, 2013) were also incorporated in the BIS-R. The BIS revealed a Cronbach's alpha of 0.96, which greatly exceeded the minimum cut-off score of 0.70. The EFA results supported the uni-dimensionality of the BIS. All nine items in the BIS loaded satisfactorily (> 0.50) on the single underlying factor. The CFA results revealed that the null hypothesis of close fit for the BIS measurement model was not rejected (H_0: RMSEA ≤ 0.05). This indicates that the measurement model fitted the data well (Heine, 2013).

3.6.6 Altruism

Langley's (1992) Values Scale was used to measure the altruism sub-scale. The scale included five items, in the form of statements that describe the leader's behaviour. Respondents had to rate their immediate supervisors by indicating their response alternatives on a six-point Likert scale, ranging from 'disagree strongly' to 'agree strongly'. The reliability coefficient obtained by Langley (1992) for the altruism subscale was 0.86 and construct validity was evidenced by the nature of the factor structure.

3.7 METHOD BIAS

Method bias refers to the presence of nuisance variables due to method-related factors (Van der Vijver, 2002). Three types of method bias can exist: sample bias (incomparability of samples on aspects other than the target variable), instrument bias (problems due to measurement instrument characteristics), and administration bias (due to administration problems, i.e. communication between testers and test-takers) (Van der Vijver, 2002). The possibility of method bias should especially be considered in contexts where measures are developed for the use of multi-cultural test takers.

Taking both this stance as well as the self-reporting nature of the instruments utilised for the study into consideration, the threat of method bias in the form of instrument bias was a possibility. The manner in which the first-line employees completed the measures was

conducted in the form of self-report, fill-in questionnaires. Research concerning self-report measures can be considered as a source of concern, based on the potential inflation of correlations between measures assessed by the same method (i.e., self-report) (Meade, Watson & Kroustalis, 2007). To eliminate the possibility of method bias in this study, various employees from different cultural contexts were involved in the assessment of ethical leadership and the leader's effectiveness of the organisation.

3.8 TREATMENT OF MISSING VALUES

Missing values mostly result from non-responses by participants. Missing values can potentially present a problem that would have to be solved before the composite indicator variables can be calculated and the data analysed. Calculating the composite indicator variables without treating the problem of missing values appropriately can result in seemingly adequate, but in reality deficient, indicator variables. Consequently, the presence of missing values needs to be addressed prior to analysing the data. The method used to assist in treating the missing values depends on the number of missing values as well as the nature of the data, i.e. whether the data follows a multivariate normal distribution. The following five options could assist in the treatment of missing values: 1) list-wise deletion; 2) pair-wise deletion; 3) imputation by matching; 4) full information maximum likelihood imputation; and 5) multiple imputations. The various options to treat the problem of missing values are discussed below (Du Toit & Du Toit, 2001; Mels, 2003).

3.8.1 List-wise Deletion

The list-wise deletion of cases is used as the default option in the treatment of missing values in most statistical analyses. List-wise deletion entails the identification and deletion of all cases that have one or more items with missing values, leaving only cases with complete data. The danger with this option is that the size of the sample could be dramatically reduced (Du Toit & Du Toit, 2001; Mels, 2003).

3.8.2 The Full Information Maximum Likelihood

The Full Information Maximum Likelihood (FIML) estimation procedure is probably more efficient than the available multiple imputation procedures, but it has the disadvantage that no separate imputed data set is created, which thus prevents item and dimensionality analyses, as well as the calculation of item parcels, which was a requirement in this study. A disadvantage of this method is the fact that FIML assumes that the data values are missing at random and that the observed variables are continuous and follow a multivariate normal distribution. The latter was seen as problematic in this case, especially as the variables most

probably did not follow a multivariate normal distribution (Du Toit & Du Toit, 2001; Mels, 2003).

3.8.3 Imputation by Matching

Imputation by matching makes less stringent assumptions than the multiple imputation procedures. According to Theron (2012), this method normally appears to be the most conservative, safe procedure in the treatment of missing values. Imputation by matching refers to a process of substituting real values for missing values. The substitute values replaced for a case are derived from one or more cases that have a similar response pattern over a set of matching variables. The ideal is to use matching variables that will not be utilised in the confirmatory factor analysis. This, however, usually is not possible. The items least plagued by missing values are consequently typically identified to serve as matching variables. By default, cases with missing values after imputation are eliminated.

3.8.4 Multiple Imputation Method

The multiple imputation (MI) method for the treatment of missing values has the advantage that estimates of missing values are derived for all cases in the initial sample (i.e. no cases with missing values are deleted) and that the data set is available for subsequent item and dimensionality analyses and the formation of item parcels. The problem with this method is that the multiple imputation procedures available in LISREL assume that the data values are missing at random and that the observed variables are continuous and follow a multivariate normal distribution. The latter was seen as problematic in this case, especially as the variables most probably did not follow a multivariate normal distribution. According to Mels (2003), it would be acceptable to use multiple imputation if observed variables are measured on a scale comprising five or more scale values, provided that the observed variables are not excessively skewed (even though the null hypothesis of multivariate normality had been rejected) and provided that less than 30% of the data constitutes missing values. Based on the foregoing, the multiple imputation method was used as the method for solving the problem. The multiple imputation method conducts several imputations for each missing value. Each imputation creates a completed data set, which could be analysed separately in order to obtain multiple estimates of the parameters of the model (Davey *et al*.; Raghunatha & Schafer, as cited in Dunbar-Isaacson, p. 29, 2006). In LISREL, missing values for each case are substituted with the average of the values imputed in each of the data sets (Du Toit & Du Toit, 2001). Plausible values are therefore delivered whilst also reflecting the uncertainty in the estimates. The advantage of the MI procedure is that all cases are retained in the imputed data set (Du Toit & Du Toit, 2001).

The data in this study met the requirements according to Mels (2003) for the use of the multiple imputation methods, namely that the observed variables should be measured on a scale comprising five or more scale values; the observed variables should not be excessively skewed (even though the null hypothesis of multivariate normality had been rejected); and less than 30% of the data should constitute missing values.

3.9 STATISTICAL/DATA ANALYSIS

After gathering all the data on the six constructs, various statistical techniques such as item analysis and confirmatory factor analysis (CFA) were utilised to evaluate the fit of the measurement models, and structural equation modelling (SEM) to measure the fit of the structural model. These analyses were performed through the Statistical Package for the Social Sciences (SPSS), version 20 (SPSS, 2012), and LISREL 8.8 (Du Toit & Du Toit, 2001).

3.9.1 Item-analysis

The various scales used to operationalise the structural model's latent variables were developed to measure a specific construct or dimension of a construct carrying a specific constitutive definition. The items were developed to reflect test takers' standing on the latent variables. The rationale for the development of the items was to function as stimulus sets to which test takers respond with behaviour which is a relatively uncontaminated expression of a specific underlying latent variable. If the design intention was successful, it has to be reflective in numerous item statistics. Item analyses were consequently conducted to determine the internal consistency of the items of the measurement instruments utilised to test the newly proposed ethical leadership and leader effectiveness model. The objective of item analysis was to identify items that did not successfully reflect the intended latent variable (Henning, Theron & Spangenberg, 2004). Item analysis was conducted on all the sub-scales before and after imputation. Considerations for elimination involved either transforming or completely deleting the items from the respective scales.

The decision was based on evidence presented in the item statistics provided by the item analysis. The classic measurement theory item statistics that were considered included the following: the corrected item-total correlation; the squared multiple correlation; the change in sub-scale reliability when the item is deleted; the change in sub-scale variance if the item is deleted; the inter-item correlations; the item mean; and the item standard deviation (Theron, 2012). Coefficient alphas were calculated to determine the reliability of these scales based on internal consistency. The size of the reliability coefficient is based on both the average correlation among items (internal consistency) and the number of items (Nunnally, 1978).

Cronbach's alphas range from 0 to 1 and the closer the values are to 1, the greater the internal consistency of the items in the scale. Items with a Cronbach's alpha of .70 can be seen as satisfactory (Nunnally, 1978). Consequently, every scale and subscale was subjected to item analyses by means of the SPSS Reliability Procedure (version 20) to identify and possibly eliminate the poor items.

Item-total correlations for specific items can be determined to further ensure that the measuring instruments are internally consistent. Item-total correlations were calculated for all the scales. Item-total correlations above 0.20 were seen as satisfactory and those below 0.20 qualified for elimination (Nunnally, 1978).

3.9.2 Structural equation modelling

Structural equation modelling (SEM) permits the fitting [i.e. estimation of free matrix elements] and testing of the comprehensive LISREL model as a unified entity. Through SEM, the strength of the relationships between the latent variables is estimated, unattenuated by measurement error (Theron, 2012). Kelloway's (1998) three arguments in favour of SEM served as rationale for selecting SEM as statistical analysis technique used in this study. Firstly, Kelloway postulates that measures are often used to represent constructs in the social sciences. SEM allows the researcher to determine how well these measures reflect the intended constructs.

According to Kelloway (1998), confirmatory factor analysis, an application of structural equation modelling, is both more accurate and more economical than the 'more traditional' techniques of exploratory factor analysis. Furthermore, factor analysis by means of SEM is based on the testing of hypotheses, with explicit tests of both the overall quality of the factor solution and the specific parameters (e.g. factor loadings) composing the model. Furthermore, social scientists are mostly interested in the question of prediction. Kelloway argues secondly that predictive models have become very complex and that SEM allows the testing and specification of these more complex 'path' models as an entity in addition to testing the components comprising the model. Lastly, Kelloway (1998) argues that SEM provides a flexible, yet powerful, method by which the quality of measurement can be taken into account when evaluating the predictive relationships existing amongst the underlying latent variables. Unlike more traditional analysis techniques, SEM permits estimation of the strength of the relationships existing between latent variables unattenuated by measurement error.

The following five interrelated steps, which characterise most applications of SEM, were adhered to (Bollen & Long, 1993; Diamantopoulos & Siguaw, 2000):

1. Model specification;
2. Evaluation of model identification;
3. Estimation of model parameters;
4. Testing model fit; and
5. Model re-specification.

Model specification involves describing the nature and number of model parameters to be estimated in the initial comprehensive model. It includes the construction of a comprehensive path diagram depicting the substantive hypotheses and measurement system. Evaluation of model identification involves an examination of the data to determine whether it is possible to find unique values for the freed parameters of the specified model. Once the model is identified the estimation technique is selected. This process is often determined by the nature and distributional properties of the variables that are being analysed (Kelloway, 1998). After parameter estimates are obtained, the model fit of the data is tested. If the model fits the data, the process can stop. However, the fit of the model can more often than not be improved through re-specification of the model, either by fixing currently free parameters, constraining parameters or freeing additional parameters, whereupon steps 2-5 can be repeated (Bollen & Long, 1993). Ideally, should satisfactory model fit be achieved, the model should be cross-validated by fitting the model with parameters constrained to the estimated values found during the initial study on a fresh data base from the same population.

The structural model and measurement model are both represented within the LISREL model. The structural model specifies the causal relationships which exist among the latent variables (Jöreskog & Sörborn, 1996b). It describes the causal effects and assigns the explained as well as unexplained variances. The measurement model specifies how the latent variables depend upon, or are indicated by the observed variables. This model also describes the measurement properties (reliabilities and validities) of the observed variables. To determine the reliability and validity of the model, it is essential to first of all evaluate the fit of the measurement model.

The measurement model must thus be evaluated among the total sample to establish goodness of fit before adding structural paths (Jöreskog & Sörbom, 1996b). If the structural model fits, it would contribute to the construct explication which would assist in future construct validation studies.

The fit of the structural model reflecting the constitutive definition of the construct's stance on the manner in which the construct is embedded in a larger nomological network of latent

variables is evaluated through SEM. If the structural model has close fit, the construct validity of the instrument will be indicated reasonably conclusively (Theron, 2012).

3.9.2.1 Variable type

At this point in the study it became important to decide whether to continue treating the individual items as indicator variables, or to create item parcels. The decision discussed above warrants a discussion of the advantages and disadvantages to the process of item parcelling.

There are clear advantages in undertaking item parcelling. Little, Cunningham and Shahar (2002) argue that, because fewer parameters are needed to fit a model when parcels are used, parcels are preferred. This is particularly so when sample sizes are relatively small. As it may become cumbersome and extensive to operationalise the latent variables comprising the model in terms of individual items, item parcelling has the advantage of simplifying the logistics of fitting the model. The use of item parcelling is a practical measure to reduce the number of measurement model parameters to be estimated in a study. Theron (2012) support the formation of linear composite measures as it has the advantage of creating more reliable indicator variables. It has also been found that the use of parcelling can significantly improve model fit under some circumstances. It may also help ensure that multivariate normality is obtained when handling data using maximum likelihoods estimation methods (Sass & Smith, 2006). Little *et al*. (2002) propose that item parcelling hold certain advantages above the use of individual items due to the fact that item-level data contain one or more of the following disadvantages: lower reliability, lower communality, a smaller ratio of common-to-unique factor variance, and a greater likelihood of distributional violations. Items also have fewer, larger, and less equal intervals between scale points than do parcels.

However, there are purported disadvantages to item parcelling. Theron (2012) cites Marsh, Balla and Grayson, who state that solutions in confirmatory factor analysis tend to improve with an increasing number of indicators per factor. Kim and Hagtvet (2003) indicate that using parcels may increase the likelihood of misrepresenting the latent construct. Little *et al*. (2002) support this statement by cautioning that when constructs are not uni-dimensional, and when it is unclear what dimensions may underlie a construct, undertaking item parcelling may be problematic. They state that parcelling should only be considered under conditions of uni-dimensionality. Little *et al*. (2002) also warn against the use of item parcels in the establishment of scale norms, as the use of parcels may run the risk of creating arbitrary metrics that no longer carry important information regarding threshold parameters contained in each scale. All of the arguments, both pro and con, have merits. Although the

strength of the argumentation for the pro side tends to outweigh the con side, the importance of the con arguments is not disproportionately weaker. However, based on the above discussion of the advantages of item parcelling, it was decided that item parcelling would be a suitable strategy to employ in this study, due to the statistical advantages resulting from the use of item parcels.

As was indicated in the foregoing discussion, item parcelling was undertaken for this study. A discussion of the different approaches to item parcelling follows. Little *et al*. (2002) suggest the following approaches to item parcelling: (i) random assignment; (ii) item-to-construct balance; (iii) a priori questionnaire construction; (iv) internal consistency; and (v) the domain representative approach. Little *et al*. (2002) suggest considering one of the first three approaches if the uni-dimensionality of the items to be parcelled has been established, and considering one of the last two approaches for dealing with multi-dimensional item sets.

Theron (2012) suggests either the use of factor loading information in creating item parcels, or the split-half approach. The latter approach to item parcelling was subsequently utilised for this study. Two item parcels were created per sub-scale by taking the mean of the items allocated to each parcel. The even-numbered items of the specific sub-scale were divided into the first item parcel, and the odd-numbered items were divided into the second item parcel. The first item of the sub-scale was allocated to the first parcel, the second item of the sub-scale was allocated to the second parcel, the third item of the sub-scale was again allocated to the first parcel, and so forth. The process was repeated for each sub-scale.

3.9.2.2 Multivariate normality and normalisation

The maximum likelihood estimation that LISREL uses by default to obtain estimates for the freed model parameters assumes that the indicator variables follow multivariate normal distribution. The null hypothesis that this assumption is satisfied is formally tested in PRELIS. Normalisation is attempted when the data does not follow a multivariate normal distribution (Jöreskog & Sörbom, 1996a). The success of the attempt at normalising the data is evaluated by testing the null hypothesis that the normalised indicator variable distribution follows a multivariate normal distribution. If the attempt is unsuccessful, robust maximum likelihood estimation is used (Mels, 2003).

The inappropriate analysis of continuous non-normal variables in structural equation models can result in incorrect standard errors and chi-square estimates (Du Toit & Du Toit, 2001; Mels, 2003). The univariate and multivariate normality of the composite indicator variables are consequently evaluated via PRELIS (Jöreskog & Sörbom, 1996a).

3.9.2.3 Confirmatory factor analysis

Comprehensive LISREL model fit indices can only be interpreted unambiguously for or against the fitted structural model if indicator variables used to operationalise the latent variables when fitting the comprehensive LISREL model successfully reflects the latent variables they are assigned to represent. The fit of the measurement model used to operationalise the structural model should be evaluated prior to fitting the comprehensive LISREL model.

The measurement model was fitted by analysing the covariance matrix. Maximum likelihood estimation is used if the multivariate normality assumption is satisfied (before or after normalisation). Where normalisation fails to achieve multivariate normality in the observed data, robust maximum likelihood estimation is used. LISREL 8.8 (Du Toit & Du Toit, 2001) was used to perform these analyses.

Two types of Factor Analysis (FA) can be identified: exploratory and confirmatory. In exploratory factor analysis (EFA) the objective is to describe and summarise data by grouping together variables that are correlated, whereas a researcher, in confirmatory factor analysis (CFA), carefully chooses specific variables to test a theory about latent processes or to investigate differences in latent processes between groups of subjects (Tabachnick & Fidell, 2001).

Confirmatory factor analysis is used as an application of structural equation modelling. This technique is both more accurate and more economical than the ‘more traditional’ techniques of exploratory factor analysis. Furthermore, confirmatory factor analysis by means of SEM is based on the testing of specific hypotheses on the number of factors/latent variables underlying the observed inter-item covariance matrix, the nature of the relationship between the factors, and the nature of the loading pattern of the items on the factors with explicit tests of both the overall quality of the factor solution and the specific parameters (e.g. factor loadings) composing the model (Kelloway, 1998). Validating the measurement model is therefore done by confirming that the different indicators hypothesised to measure the latent variables are successful. Fitting the model means to evaluate the extent to which the co-variances predicted by the model parameter estimates match the observed covariance matrix derived from the data of the study. The CFA was performed via LISREL 8.8. With this analysis the modification indices and other coefficients are used to improve the fit of the model (Kelloway, 1998). If the measurement model fits and the measurement model parameters estimate are acceptable, the operationalisation of the latent variables were

considered successful and hereafter the structural model is fitted and the fit of the model is evaluated in terms of exact and close fit testing (Theron, 2012).

3.9.2.4 Interpretation of measurement model fit and parameter estimates

The ability of the measurement model to reproduce the observed covariance matrix is reflected in the measurement model fit. The measurement model has been operationalised by testing the exact and close fit of the measurement model. The measurement model fit is interpreted through inspection of the full array of indices provided by LISREL (Diamontopoulos & Sigauw, 2000). The measurement model can be said to fit well if the reproduced covariance matrix approximates the observed covariance matrix. This fit is interpreted by considering the full range of fit indices provided by LISREL (Diamantopoulos & Siguaw, 2000). If the measurement model shows at least close fit, the measurement model parameter estimates are interpreted. Consideration is given to the statistical significance and magnitude of the measurement error variances in the main diagonal in theta-delta and the statistical significance and magnitude of the covariances between the latent variables. The magnitude and distribution of the standardised residuals and the magnitude of model modification indices calculated for lambda-x and theta-delta are furthermore discussed. Large numbers of significant modification index variables indicate measurement model parameters that, if set free, improve the fit of the model. Large and significant modification index values comment negatively on the fit of the model, suggesting that numerous possibilities exist to improve the fit of the proposed model. Inspection of the model modification indices for the aforementioned matrices serve the purpose of commenting on the proposed model's fit (Diamantopoulos & Siguaw, 2000).

The operationalisation of the latent variables comprising the structural model is considered successful if (a) the measurement model reflecting the allocation of item parcels to the latent variable they are designed to reflect shows close fit; (b) the freed factor loadings are all statistically significant ($p < .05$) and large ($\lambda_{ij} \geq .50$) in the completely standardised solution; (c) the measurement error variances are statistically significant ($p < .05$) and small ($\Theta_{\sigma jj} < .75$) (in the completely standardised solution) for all items; and (d) reasonably large R^2 values ($R^2 \geq .25$) are present for all indicator variables. In terms of the theorising underlying the structural model, the latent variables in the measurement model are assumed to be qualitatively distinct, separate constructs.

3.9.2.5 The structural model

The structural model illustrated in Figure 3.1 is based on the theoretical arguments presented in Chapter 2.The structural model consists of a set of linear structural equations

which "specifies the causal relationships among the latent variables, describes the causal effects and assigns the explained and unexplained variance" (Jöreskog & Sörbom, 1996b, p. 1). Figure 3.1 shows that integrity and altruism are the independent or exogenous variables in the study and are indicated by the symbol KSI (ξ). Ethical leadership, organisational justice, ethical climate and leader effectiveness are the endogenous variables and are indicated by the symbol ETA (η).

The structural model consists of various paths between the variables which represent the relationships between different constructs. The paths between the exogenous and endogenous variables are indicated with the symbol GAMMA (γ), while the paths between the endogenous variables are indicated with BETA (β). ZETA (ζ) represents the errors in structural equations and describes the error terms of η_1, η_2, η_3 and η_4. ZETA therefore represents residual error in the latent endogenous variables. PHI (Φ) represents the variance in and covariance between the exogenous latent variables (ξ_1) and (ξ_2), since it could be assumed that the exogenous latent variables in this study are correlated.

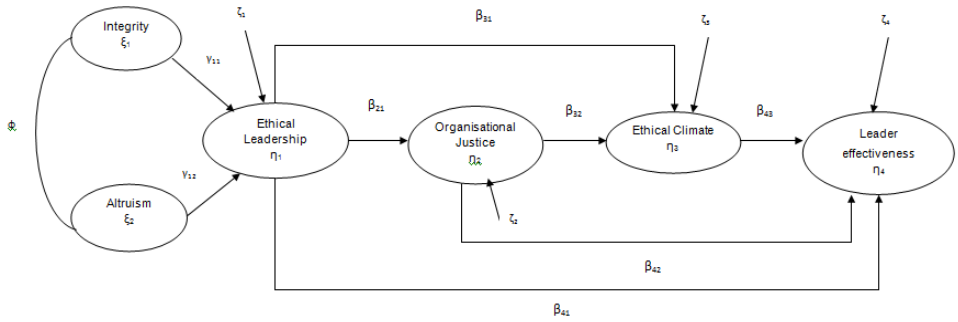

Figure 3.1: **A theoretical model of the structural relationships between ethical leadership and leader effectiveness**

3.9.2.5. The structural model in matrix form

The following matrix equation was developed by taking the exogenous and endogenous variables into consideration. All the gammas and betas were incorporated in the matrix equation below.

$$\begin{bmatrix}\eta_1\\ \eta_2\\ \eta_3\\ \eta_4\end{bmatrix} = \begin{bmatrix}0 & 0 & 0 & 0\\ \beta_{21} & 0 & 0 & 0\\ \beta_{31} & \beta_{32} & 0 & 0\\ \beta_{41} & \beta_{42} & \beta_{43} & 0\end{bmatrix} \begin{bmatrix}\eta_1\\ \eta_2\\ \eta_3\\ \eta_4\end{bmatrix} + \begin{bmatrix}\gamma_{11} & \gamma_{12}\\ 0 & 0\\ 0 & 0\\ 0 & 0\end{bmatrix} \begin{bmatrix}\xi_1\\ \xi_2\end{bmatrix} + \begin{bmatrix}\zeta_1\\ \zeta_2\\ \zeta_3\\ \zeta_3\end{bmatrix}$$

3.9.2.6 Fitting the structural model

The structural model is fitted by analysing the covariance matrix. Maximum likelihood estimation is used if the multivariate normality assumption is satisfied (before or after

normalisation). If the normalisation fails to achieve multivariate normality in the observed data, robust maximum likelihood estimation is used. LISREL 8.8 (Du Toit & Du Toit, 2001) was used to perform the structural equation analysis.

3.9.2.7 Interpreting the structural model fit and parameter estimates

The comprehensive LISREL model was fitted by analysing the covariance matrix. LISREL 8.8 (Du Toit & Du Toit, 2001) was used to obtain estimates of the freed model parameters. If at least H_{02} is not rejected, the path-specific null hypotheses are tested. The magnitude of the direct effect completely standardised path coefficients are interpreted for all significant path coefficients. If H_{02} (close fit) fails to be rejected or if at least reasonable structural model fit is obtained, H_{03}-H_{010} is tested. The magnitude of the completely standardised direct effect was interpreted for all significant path coefficients (i.e. the effect of ξ_j on η_i or the effect of η_j on η_i). Further consideration is also given to the magnitude and distribution of the standardised residuals and the magnitude of model modification indices calculated for **Γ, B** and **Ψ**. Large modification index values indicate structural model parameters that, if set free, improve the fit of the model. Large and significant modification index values comment negatively on the fit of the model in suggesting that numerous possibilities exist to improve the fit of the proposed model. Inspection of the model modification indices calculated for the **Γ** and **B** matrices were used to explore possible modifications to the current structural model if such modifications make substantive theoretical sense. The large and statistically significant ($p < .01$) modification indices were used to suggest possible additional paths that could be theoretically meaningfully added to the proposed model that would improve the fit of the model. Modification of the model is considered once alterations are proven to be theoretically sound (Diamantopoulos & Sigauw, 2000; Henning *et al*., 2004).

In the final analysis, the description of the manner in which the core ethical values, ethical leadership, organisational justice and ethical climate combine to affect leadership effectiveness in Figure 3.1 were considered as satisfactory to the extent that the model fits the data well; the path coefficients for the hypothesised structural relations are significant; and the model explains a substantial proportion of the variance in each of the endogenous latent variables.

3.9.2.8 Assessing Model fit

Structural Equation Modelling is predominantly used to assess model fit. Kelloway's (1998) goodness-of-fit indices for assessing absolute, comparative and parsimonious fit can be used to assess a model's overall fit.

3.9.2.8.1 Absolute fit

Tests of absolute fit are utilised to directly assess how well a model reproduces the sample data. These indices concern model to data matrix correspondence. The first measure of fit is the chi-square statistic, which is a traditional measure for evaluating overall fit. It provides a test of perfect fit. A statistically significant chi-square leads to the rejection of the model (Diamantopoulos & Siguaw, 2000). The null hypothesis tested by the chi-square is:

$$H_0: \Sigma = \Sigma(\theta)$$

The aim is to not reject H_0 which is tested by means of the Satorra Bentler χ^2 statistic. Kelloway (1998) affirmed that a non-significant χ^2 signifies that the model fits the data well and that the model can reproduce sample observed covariance matrix to a degree of accuracy that can be explained in terms of sampling error. The null hypothesis of exact fit is an unrealistic aim, however, and it is therefore more appropriate to test the close fit null hypothesis. The chi-square can be seen as sensitive to the sample size. Consequently, to avoid the problem that increases with an increase in sample size, the χ^2 should be expressed in terms of its degrees of freedom (i.e. χ^2/df). Disagreement about the interpretation of the values for χ^2/df exists in the literature, but good fit is generally indicated by values between 2 and 5. A value less than 2 resembles over fitting of the model (Kelloway, 1998).

LISREL reports a number of absolute fit indices. The Goodness-of-fit Index (GFI) directly assesses how well the covariances predicted from the parameter estimates reproduce the sample covariance. The GFI ranges from 0 (poor fit) to 1 (perfect fit), with values exceeding 0.9 assumed to indicate a good fit of the model to the data (Kelloway, 1998).

The Root Mean Square Residual (RMR) is a measure of the average value of the difference between the sample covariance matrix and a fitted covariance matrix reproduced by the theoretical model (Diamantopoulos & Siguaw, 2000). It is generally accepted that the lower the index, the better the fit of the model to the data. The standardised RMR represents fitted residuals divided by their estimated standard errors and has a lower bound of 0 and an upper bound of 1, with values less than 0.05 interpreted as indicating a good fit to the data (Kelloway, 1998).

The Root Mean Square Error of Approximation (RMSEA) is regarded as one of the most informative fit indices. Smaller values indicate a better fit to the data. Values lower than 0.08 indicate a reasonable fit and a value lower than 0.05 indicates a good close fit (H_{02} RMSEA

≤ .05), while values below 0.01 indicate outstanding fit to the data (Diamantopoulos & Siguaw, 2000).

Another absolute fit index is the Expected Cross Validation Index (ECVI). The ECVI focuses on the overall error. It measures the difference between the fitted covariance matrix in the analysed sample and the expected covariance matrix that would be obtained in another comparable sample. Smaller ECVI values indicate better fitting models that are believed to have the greatest potential for replication (Diamantopoulos & Siguaw, 2000).

3.9.2.8.2 Comparative fit

Comparative fit (also called incremental fit) represents the relative improvement in fit of the model compared to the statistical baseline model. The baseline model refers to the independence (null) model. According to Kelloway (1998), the null model indicates no relationship between the variables composing the model. Comparative fit measures reported are the Normed-Fit Index (NFI), the Non-Normed Fit Index (NNFI), the Incremental Fit Index (IFI), the Comparative Fit Index (CFI), the Relative Fit Index (RFI) and the Adjusted Goodness-of-Fit Index (AGFI). All of these fit indices have a range of 0 to 1. Values closer to one, especially values > 0.90, represent good fit (Kelloway, 1998).

3.9.2.8.3 Parsimonious fit

Kelloway (1998) contends that parsimonious indices of goodness-of-fit are based on the recognition that one can obtain a better fitting model by means of estimating more parameters. This index has a built-in correction in its formula for model complexity. Although these indices can be useful when comparing two models, it is not the most important indices to consider for the evaluation of model fit. For the aforementioned reason, the parsimonious fit is not discussed in this study.

The goodness-of-fit indices as described above are summarised in Table 3.3. These indices were used for the purpose of reaching a meaningful conclusion regarding model fit.

Table 3.3
Criteria of goodness-of-fit indices to be used

Absolute fit measures

Minimum fit function Chi-Square	A non-significant result indicates model fit.
χ^2/df	Values between 2 and 5 indicate good fit.
Root Mean Square Error of Approximation (RMSEA)	Values of 0.08 or below indicate acceptable fit, those below 0.05 indicate good fit, and values below 0.01 indicate outstanding fit.
P-Value for Test of Close Fit (RMSEA < 0.05)	Values > 0.05 indicate good fit.
90% Confidence Interval for RMSEA	This is a 90% confidence interval of RMSEA testing the closeness of fit *i.e., testing the hypothesis H_0: RMSEA < 0.05).
Root Mean Square Residual (RMR)	Lower values indicate better fit, with values below 0.08 indicative of good fit.
Standardised RMR	Lower values indicate better fit, with values less than 0.05 indicating good fit.
Goodness of Fit Index (GFI)	Values closer to 1 and > 0.90 represent good fit.
Incremental fit measures	
Normed Fit Index (NFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.
Non-normed Fit Index (NNFI)	Higher values indicate better fit, with values > 0.90 indicative of good fit.
Adjusted Goodness of Fit (AGFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Comparative Fit Index (CFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Incremental Fit Index (IFI)	Values closer to 1 indicate better fit, with values > 0.90 indicative of good fit.
Relative Fit Index (RFI)	Values closer to 1 indicate better fit, with values > 0.09 indicative of good fit.

(Diamantopoulos & Siguaw, 2000; Kelloway, 1998)

3.10 ETHICAL CONSIDERATIONS

The purpose of reflecting on potential ethical risks associated with the study is to protect the dignity, rights, safety and well-being of the research participants involved in the study (Standard Operating Procedure, 2012).

Some potential risks or discomforts were envisaged in this study. Employees' concerns regarding possible negative repercussions of evaluating their managers/supervisor's ethical leadership competence, integrity and altruism were however allayed through assuring confidential utilisation of results. The obtained information was not used to determine the

performance levels of the managers individually, or on average, but rather to test hypothesised relationships between the specific variables. No inferences that would affect the managers being rated were consequently derived from the results, nor did it really matter who was rated. All questionnaires were answered anonymously and participants' names and identities were not disclosed (i.e. nobody was able to determine their identity from the data that were submitted). Participants were not exposed to any risks or discomfort other than the fact that they had to set aside approximately 30 minutes to complete the questionnaire.

The research participant had the right to voluntarily decide whether he/she wished to accept the invitation to participate in the research. To make an informed decision on whether he/she wished to participate in the research, the participant was informed of the objective and purpose of the research; what participation in the research involved; how the research results would be disseminated and used; who the researchers were; what their affiliation was; what their rights as participants were; and where they could obtain more information on their research rights (Standard Operating Procedure, 2012). The researcher obtained informed consent from the participants.

The fact that participants were required to rate their immediate superior might have brought to the fore the somewhat troublesome ethical question of whether the right of the superior to be informed was not being violated. In response to this issue, it could be argued that the follower was the only unit of analysis in this study, which would imply that the hypothesis that was examined was that the follower's perception of his/her leader's ethical leadership and leader effectiveness abilities determined the follower's perceived organisational justice and his/her perceived ethical climate. Furthermore, employees'/followers' concerns regarding possible negative repercussions of evaluating their manager's/supervisor's ethical leadership competence, integrity and altruism were allayed through assuring confidential utilisation of results. The obtained information was not used to determine the performance levels of the managers individually, or on average, but rather to test hypothesised relationships between the specific variables. No inferences that would affect the managers being rated were consequently derived from the results, nor did it really matter who was rated.

In addition, the issue that managers were evaluated without being informed upfront can be seen as somewhat ambiguous. On the one hand, one could argue that the manager being rated had the right to be informed about the fact that he/she was being rated. In addition, one could argue that the manager had the right to decide whether he/she wished to be rated. Informed consent would have been non-negotiable if the ratings in one way or another would be used in a manner that would affect the manager, or if the rating had to be obtained for specific managers for some reason. In this case, also, no inferences that would affect the

managers being rated were derived from the results, nor did it really matter who was being rated.

One the other hand, it could be argued that there were methodological reasons why the manager being rated should preferably not be aware of the fact that he/she was being rated. The first was that it reassures the rater (along with the reassurance that no individual feedback would be given to the manager) that he/she would not be victimised by the manager, thereby increasing that chances of valid, unbiased ratings. The second was that the concern existed that, if the manager was aware that he/she was being rated and what they were being rated on, they would act unnaturally during the particular period.

The researcher consequently prepared a debriefing formulation concerning that managers should be debriefed after the collection of data, provided the institution agreed to this. The debriefing formulation simply comprised a document that explained the study, explained that the manager had been rated but that the information had not been used to determine the performance levels of the managers individually or on average, but rather to test hypothesised relationships between specific variables. The institution's internal communication system would then be used to circulate the debriefing formulation to all affected managers. The idea was not that managers should give informed consent up front, but rather be debriefed afterwards.

A further consideration was that the institution should be provided with sufficient information to decide how they wanted the matter be handled. Informed institutional permission is required. It is thereby not implied that unethical research behaviour can be condoned if the institution agrees to play along. Informed institutional permission for the research was obtained from the participating organisations. The Research Ethics Committee of Human Research (Humanities) of Stellenbosch University furthermore granted approval for ethical clearance of the research study.

3.11 SUMMARY

In Chapter 3, the plan and methodology for the research process have been explicated. This included a description of the applied research design; formulation of hypotheses; sample design and characteristics; information regarding the measuring instruments; and the way in which the data were collected. Finally an outline of the different statistical techniques used to analyse the data was presented. The results of the data analyses are presented in Chapter 4.

CHAPTER 4: RESEARCH RESULTS

4.1 INTRODUCTION

The purpose of Chapter 4 is to present and discuss the statistical results of the various analyses that were performed. This chapter will firstly discuss item analysis which was executed to determine the psychometric integrity of the indicator variables meant to represent the various latent dimensions, followed by an evaluation of the extent to which the data satisfied the statistical data assumptions relevant to the data analysis techniques which was utilised. The fit of the measurement model is subsequently evaluated. In evaluating the success with which the latent variables comprising the structural model had been operationalised. No distinction is made between the exogenous and endogenous measurement models. On condition of acceptable measurement model fit, the structural model was to be considered.

4.2 MISSING VALUES

The presence of missing data in the data set was addressed before the data could be analysed. Missing values did not seriously plague the majority of the items comprising the scales used to operationalise the latent variables in the model. The format of the online questionnaire permitted participants to proceed only if the previous answer was filled out. However some missing values were found in the paper-and-pencil questionnaires. Table 4.1 depicts this distribution of missing values across items. It is clear from Table 4.1 that none of the items were more prone to non-responses.

Table 4.1

Distribution of missing values across items

INT1	INT2	INT3	INT4	INT5	INT6	INT7	INT8	INT9	INT10
1	1	1	1	0	0	0	1	1	0
INT11	INT12	INT13	INT14	INT15	INT16	INT17	INT18	INT19	INT20
0	0	0	0	0	0	0	0	0	1
ALT21	ALT22	ALT23	ALT24	ALT25	EL26	EL27	EL28	EL29	EL30
0	0	0	0	1	0	0	0	0	0
EL31	EL32	EL33	EL34	EL35	EL36	EL37	EL38	EL39	EL40
1	0	0	0	0	0	0	0	0	1
EL41	OJ1	OJ2	OJ3	OJ4	OJ5	OJ6	OJ7	OJ8	OJ9
1	1	0	0	0	1	2	1	1	1
OJ10	OJ11	OJ12	OJ13	OJ14	OJ15	OJ16	OJ17	OJ18	OJ19
2	1	1	1	0	1	0	0	0	0
OJ20	OJ21	OJ22	EC1	EC2	EC3	EC4	EC5	EC6	EC7

0	0	0	0	0	0	0	0	0	0
EC8	EC9	EC10	EC11	EC12	EC13	EC14	EC15	EC16	EC17
2	2	1	1	1	1	0	0	1	0
EC18	EC19	LE1	LE2	LE3	LE4	LE5			
1	1	1	1	1	1	1			

As mentioned previously multiple imputation was used to impute the missing values above which represents the missing values out of 224 observations.

4.3 ITEM ANALYSIS

To identify and eliminate possible items that did not contribute to an internally consistent description of the various latent variables forming part of the model (Theron, 2012), item analysis was performed on the items of the different measuring instruments. Item analysis was conducted by means of SPSS Reliability Procedure (SPSS version 20) and was conducted on all the scales to ensure that the instruments reflected the variables they were intended to reflect within the study. The reliability of each scale was therefore determined. Problematic items were not used to represent latent variables in the model and were not included in the calculation of composite indicator variables.

4.3.1 Reliability analysis: Leadership Effectiveness Questionnaire

The Leadership Effectiveness Questionnaire (LEQ) comprised of five items. Table 4.2 presents the item statistics for the leadership effectiveness scale. The LEQ obtained a Cronbach alpha of .843. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The means ranged from 4.40 to 4.78 (on a 6-point scale) and the standard deviations ranged from 1.279 to 1.528, by which the absence of extreme means and small standard deviations is displayed and the absence of problem/poor items furthermore is indicated. All corrected item-total correlations were larger than .20, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factors (Nunnally, 1978). In addition, the squared multiple correlations were all larger than .30, which was considered satisfactory as values lower than .30 indicates that the item is not measuring the intended latent variable (Pallant, 2007). The results furthermore revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the Leadership Effectiveness Questionnaire did not raise any concerns and all the items were retained.

Table 4.2
Item statistics for the Leadership Effectiveness Questionnaire

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.843	.843	5

Item Statistics

	Mean	Std. Deviation	N
LE1	4.58	1.528	224
LE2	4.78	1.279	224
LE3	4.40	1.423	224
LE4	4.63	1.480	224
LE5	4.65	1.493	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
LE1	18.46	21.218	.599	.367	.826
LE2	18.26	23.190	.581	.363	.829
LE3	18.64	20.849	.701	.509	.797
LE4	18.41	20.916	.656	.494	.809
LE5	18.39	20.194	.713	.558	.793

4.3.2 Reliability analysis: *Ethical climate* scale

The Ethical Climate scale comprised 19 items which are related to the subscales namely Caring, Law, Rules and Independence. Each of these subscales was subjected to item analysis.

4.3.2.1 Reliability results: Caring subscale

Table 4.3 represents the reliability results for the Caring subscale which consists of 7 items. Cronbach's alpha of this subscale was found to be .848. This was satisfactory as it is above the recommended value of .70 (Pallant, 2007). The means ranged from 3.75 to 5.16 (on a 6-point scale) and the standard deviations ranged from 1.141 to 1.622 through which the absence of extreme means and small standard deviations is displayed and furthermore indicate the absence of problem/poor items. From the item-total statistics it was evident that the item-total correlations of all items were >.30 indicating that the correlation between each item and the total score calculated from the remaining items was satisfactorily and that the items were reflecting the same underlying factor (Nunnally, 1978). In addition, the squared multiple correlations were all larger than .30 except for EC4. This was however not sufficient

reason for concern to delete the item as there is no other compelling evidence to support the deletion of this item. Furthermore the results revealed that none of the items, if deleted, would significantly increase the current Cronbach's alpha. The results of the item analysis of the Caring sub-scale did not raise any concerns and all the items were retained.

Table 4.3

Item statistics for the Caring subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.848	.852	7

Item Statistics

	Mean	Std. Deviation	N
EC1	4.07	1.511	224
EC2	4.28	1.622	224
EC3	4.13	1.584	224
EC4	3.75	1.615	224
EC5	5.16	1.141	224
EC6	4.74	1.348	224
EC7	5.08	1.157	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC1	27.14	39.441	.597	.436	.829
EC2	26.94	35.871	.749	.637	.803
EC3	27.08	37.558	.669	.507	.817
EC4	27.46	40.465	.486	.282	.848
EC5	26.05	43.154	.574	.449	.833
EC6	26.47	40.241	.643	.581	.822
EC7	26.13	43.040	.572	.536	.833

4.3.2.2 Reliability results: Law subscale

Table 4.4 presents the reliability and correlation results for the 4-item Law subscale. The Law subscale obtained a Cronbach alpha of .792, which was highly acceptable because it exceeds the recommended value of .70 (Pallant, 2007). The item means ranged from 4.43 to 4.95 (on a 6-point scale) and the item standard deviations ranged from 1.299 to 1.478, by which the absence of extreme means and small standard deviations is displayed and the absence of problem/poor items furthermore is indicated.

It was evident from the item-total statistics that the item-total correlations of all items were >.30 indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30 (Pallant, 2007). It is also of interest to note that there was no significant increase in the alpha if any of the items (which were highly correlated) were deleted. No items were therefore flagged as problematic. The results of the items analysis of the Law subscale did not raise any concerns and no items were deleted.

Table 4.4
Item statistics for the Law subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.792	.795	4

Item Statistics

	Mean	Std. Deviation	N
EC8	4.86	1.334	224
EC9	4.59	1.418	224
EC10	4.95	1.299	224
EC11	4.43	1.478	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC8	13.97	11.869	.569	.390	.757
EC9	14.24	10.471	.697	.488	.691
EC10	13.88	11.515	.643	.420	.722
EC11	14.40	11.560	.511	.306	.789

4.3.2.3 Reliability results: Rules subscale

The results for the 4-item Rules subscale are depicted in Table 4.5. The Rules subscale obtained a Cronbach alpha of .709, which is satisfactory and above the recommended value of .70 (Pallant, 2007). Inspection of the means and standard deviations revealed the absence of extreme means and small standard deviations. The item means ranged from 4.13 to 5.31 (on a 6-point scale) and the standard item deviations ranged from 1.104 to 1.681, by which the absence of extreme means and small standard deviations is displayed and the absence of problem/poor items furthermore is indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory

and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30, except for EC14. This, however, was not sufficient reason for concern to delete the item as there was no other compelling evidence to support the deletion of this item. Furthermore, the results revealed that none of the items, if deleted, would increase the current Cronbach alpha. None of the items were therefore deleted, and no items were flagged as problematic. The results of the items analysis of the Rules subscale did not raise any concerns and no items were deleted.

Table 4.5
Item statistics for the Rules subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.709	.733	4

Item Statistics

	Mean	Std. Deviation	N
EC12	5.27	1.129	224
EC13	5.31	1.104	224
EC14	4.13	1.681	224
EC15	4.51	1.539	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC12	13.95	11.396	.493	.520	.656
EC13	13.91	11.050	.567	.556	.622
EC14	15.09	9.215	.430	.259	.709
EC15	14.71	8.890	.564	.346	.602

4.3.2.4 Reliability results: Independence subscale

The results for the item analysis for the Independence subscale are depicted in Table 4.6. The independence subscale comprised four items and presented a Cronbach alpha of .840, which is above the recommended value of .70 (Pallant, 2007). The item means ranged from 3.03 to 3.58 (on a 6-point scale) and the item standard deviations ranged from 1.737 to 1.880, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicate. All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor. In addition, the squared multiple correlations were all larger than .30 and the results revealed that none of the items, if deleted, would increase the

current Cronbach alpha. The results of the item analysis of the Independence subscale therefore did not raise any concerns and all the items of the scale were retained.

Table 4.6
Item statistics for the Independence subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.840	.840	4

Item Statistics

	Mean	Std. Deviation	N
EC16	3.58	1.737	224
EC17	3.03	1.880	224
EC18	3.28	1.740	224
EC19	3.24	1.805	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC16	9.54	21.900	.600	.417	.828
EC17	10.09	19.920	.669	.453	.800
EC18	9.84	19.804	.765	.596	.757
EC19	9.88	20.564	.663	.492	.802

4.3.2.5 Reliability analysis: Total Ethical Climate scale

Table 4.7 represents the reliability and correlation results for the Total Ethical Climate scale comprising 19 items. The total ethical climate scale obtained a Cronbach's alpha of .892 which was highly acceptable because it exceeds the recommended value of .70 (Pallant, 2007). The item means ranged from 3.03 to 5.31 (on a 6-point scale) and the item standard deviations ranged from 1.104 to 1.880, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

From the item-total statistics, it was evident that the item-total correlations of all items larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30. It is also of interest to note that there was no significant increase in the alpha if any of the items (which were highly correlated) was deleted. No items were therefore flagged as problematic. The results of the items analysis of the Total Ethical Climate scale did not raise any concerns and no items were consequently deleted.

Table 4.7

Item statistics for the Total Ethical Climate scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.892	.898	19

Item Statistics

	Mean	Std. Deviation	N
EC1	4.07	1.511	224
EC2	4.28	1.622	224
EC3	4.13	1.584	224
EC4	3.75	1.615	224
EC5	5.16	1.141	224
EC6	4.74	1.348	224
EC7	5.08	1.157	224
EC8	4.86	1.334	224
EC9	4.59	1.418	224
EC10	4.95	1.299	224
EC11	4.43	1.478	224
EC12	5.27	1.129	224
EC13	5.31	1.104	224
EC14	4.13	1.681	224
EC15	4.51	1.539	224
EC16	3.58	1.737	224
EC17	3.03	1.880	224
EC18	3.28	1.740	224
EC19	3.24	1.805	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC 1	78.10	250.824	.588	.484	.884
EC 2	77.89	243.872	.685	.680	.881
EC 3	78.04	247.581	.625	.551	.883
EC 4	78.42	250.414	.552	.384	.885
EC 5	77.01	261.623	.496	.553	.887
EC 6	77.43	256.147	.539	.621	.886
EC 7	77.09	260.396	.522	.598	.887
EC 8	77.35	256.084	.513	.517	.887
EC 9	77.62	249.850	.623	.591	.883
EC 10	77.24	254.668	.579	.569	.885

EC 11	77.76	255.969	.477	.406	.888
EC 12	76.92	259.303	.539	.674	.886
EC 13	76.89	258.763	.567	.658	.886
EC 14	78.04	251.191	.510	.449	.887
EC 15	77.66	252.173	.546	.416	.886
EC 16	78.61	253.898	.434	.478	.890
EC 17	79.14	255.630	.367	.536	.893
EC 18	78.90	250.789	.493	.633	.888
EC 19	78.94	255.319	.390	.537	.892

4.3.3 Reliability analysis: *Organisational justice* scale

The study utilised an organisational justice scale comprising 22 items which included the three sub-scales, Procedural, Interactional and Distributive justice.

4.3.3.1 Reliability analysis: Procedural justice subscale

The Procedural Justice sub-scale comprised seven items. Table 4.8 presents the item statistics for the Procedural Justice sub-scale. The procedural justice scale obtained a Cronbach alpha of .861. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The mean ranged from 3.89 to 4.60 (on a 6-point scale) and the standard deviation ranged from 1.417 to 1.814, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items was furthermore indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30, except for OJ1. This, however, was not sufficient reason for concern to delete the item as there was no other compelling evidence to support the deletion of this item. The results furthermore revealed that if OJ1 would be deleted, the current Cronbach alpha would increase marginally. The results of the item analysis of the procedural justice scale did not raise any concerns and all the items of the scale were retained.

Table 4.8

Item statistics for the Procedural Justice subscale

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.861	.865	7

Item Statistics

	Mean	Std. Deviation	N
OJ1	4.16	1.623	224
OJ2	4.30	1.541	224
OJ3	4.60	1.436	224
OJ4	4.51	1.417	224
OJ5	4.41	1.477	224
OJ6	3.89	1.814	224
OJ7	4.42	1.492	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OJ1	26.14	50.302	.485	.247	.863
OJ2	26.00	48.040	.641	.428	.840
OJ3	25.70	48.291	.689	.528	.834
OJ4	25.79	48.322	.699	.518	.833
OJ5	25.89	49.032	.623	.416	.843
OJ6	26.41	45.946	.605	.374	.848
OJ7	25.88	47.357	.707	.515	.831

Reliability analysis: Interactional Justice subscale

The Interactional Justice sub-scale comprised ten items. Table 4.9 presents the item statistics for the Interactional Justice sub-scale. The Interactional Justice sub-scale obtained a Cronbach alpha of .947. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The means ranged from 4.00 to 4.66 (on a 6-point scale) and the standard deviation ranged from 1.366 to 1.680, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30. The results furthermore revealed that some of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the Interactional Justice scale did not raise any concerns and all the items of the scale were retained.

Table 4.9

Item statistics for the Interactional Justice subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.947	.948	10

Item Statistics

	Mean	Std. Deviation	N
OJ8	4.35	1.680	224
OJ9	4.63	1.509	224
OJ10	4.45	1.457	224
OJ11	4.00	1.658	224
OJ12	4.48	1.550	224
OJ13	4.28	1.641	224
OJ14	4.33	1.552	224
OJ15	4.37	1.366	224
OJ16	4.63	1.488	224
OJ17	4.66	1.474	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OJ8	39.82	126.452	.826	.721	.939
OJ9	39.54	129.326	.841	.734	.938
OJ10	39.72	131.789	.794	.672	.941
OJ11	40.18	134.739	.597	.408	.950
OJ12	39.69	128.555	.839	.769	.938
OJ13	39.90	126.765	.839	.740	.938
OJ14	39.85	131.179	.756	.616	.942
OJ15	39.81	132.954	.814	.697	.940
OJ16	39.54	133.102	.732	.645	.943
OJ17	39.52	132.538	.759	.680	.942

4.3.3.2 Reliability analysis: Distributive justice subscale

The Distributive Justice subscale comprised five items. Table 4.10 presents the item statistics for the Distributive Justice subscale. The Distributive Justice subscale obtained a Cronbach alpha of .872. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The means ranged from 2.96 to 4.54 (on a 6-point scale) and the standard deviations ranged from 1.593 to 1.850, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factors (Fields, 2005). In addition, the squared multiple correlations were all larger than .30. Furthermore, the results revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the distributive justice scale did not raise any concerns and all the items of the scale were retained.

Table 4.10

Item statistics for the Distributive Justice subscale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.872	.873	5

Item Statistics

	Mean	Std. Deviation	N
OJ18	4.54	1.593	224
OJ19	2.96	1.850	224
OJ20	4.13	1.645	224
OJ21	3.48	1.782	224
OJ22	4.30	1.620	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OJ18	14.87	34.484	.580	.391	.872
OJ19	16.45	30.527	.681	.548	.851
OJ20	15.28	31.430	.745	.576	.835
OJ21	15.92	29.864	.762	.646	.829
OJ22	15.11	31.782	.738	.566	.837

4.3.3.3 Reliability analysis: Total Organisational Justice scale

The Total Organisational scale comprises twenty-two items. Table 4.11 presents the item statistics for the Total Organisational Justice scale. This scale obtained a Cronbach alpha of .954. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The means ranged from 2.96 to 4.66 (on a 6-point scale) and the standard deviations ranged from 1.396 to 1.850, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated. All of the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Fields, 2005). In addition, the squared multiple correlations were all larger than .30. Furthermore, the results revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the total Organisational Justice scale did not raise any concerns and all the items were retained.

Table 4.11

Item statistics for the Total Organisational Justice scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.954	.956	22

Item Statistics

	Mean	Std. Deviation	N
OJ 1	4.14	1.647	224
OJ 2	4.30	1.541	224
OJ 3	4.60	1.436	224
OJ 4	4.51	1.417	224
OJ 5	4.39	1.505	224
OJ 6	3.86	1.848	224
OJ 7	4.40	1.521	224
OJ 8	4.34	1.702	224
OJ 9	4.62	1.537	224
OJ 10	4.41	1.516	224
OJ 11	3.97	1.674	224
OJ 12	4.47	1.576	224
OJ 13	4.26	1.664	224
OJ 14	4.33	1.552	224
OJ 15	4.35	1.396	224
OJ 16	4.63	1.488	224
OJ 17	4.66	1.474	224
OJ 18	4.54	1.593	224
OJ 19	2.96	1.850	224
OJ 20	4.13	1.645	224
OJ 21	3.48	1.782	224
OJ 22	4.30	1.620	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OJ 1	89.50	589.076	.466	.306	.955
OJ 2	89.34	577.884	.658	.509	.953
OJ 3	89.04	580.276	.675	.594	.952
OJ 4	89.13	577.880	.721	.620	.952
OJ 5	89.25	581.052	.630	.492	.953
OJ 6	89.79	570.528	.624	.493	.953
OJ 7	89.24	576.794	.683	.545	.952
OJ 8	89.30	562.553	.787	.738	.951
OJ 9	89.02	567.430	.809	.779	.951
OJ 10	89.23	573.659	.731	.667	.952
OJ 11	89.67	575.952	.625	.472	.953
OJ 12	89.17	565.597	.813	.818	.951
OJ 13	89.38	562.918	.802	.771	.951
OJ 14	89.32	571.222	.746	.639	.952
OJ 15	89.29	573.150	.806	.729	.951
OJ 16	89.01	576.332	.706	.681	.952
OJ 17	88.99	574.309	.743	.733	.952
OJ 18	89.10	581.886	.580	.500	.954
OJ 19	90.69	577.355	.542	.607	.954
OJ 20	89.51	576.520	.630	.650	.953
OJ 21	90.16	572.449	.626	.701	.953
OJ 22	89.34	571.186	.713	.674	.952

4.3.4 Reliability analysis: *Leader of ethics* scale

The Leader of Ethics Scale (LES) contains 17 items and no subscales. The LES was also subjected to item analysis and the results for the internal reliability are portrayed in Table 4.12. The Cronbach alpha of this scale was reported to be .949, which is highly satisfactory as it exceeds the recommended value of .70 (Pallant, 2007). The item means ranged from 4.26 to 4.75 (on a 6-point scale) and the item standard deviations ranged from 1.273 to 1.554, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

All of the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Fields, 2005). In addition, the squared multiple correlations were all larger than 0.30 and the results revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the ethical leadership scale did not raise any concerns.

Table 4.12

Item statistics for the LES

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.949	.950	17

Item Statistics

	Mean	Std. Deviation	N
EL26	4.42	1.554	224
EL27	4.61	1.401	224
EL28	4.71	1.467	224
EL29	4.49	1.333	224
EL30	4.48	1.382	224
EL31	4.59	1.382	224
EL32	4.52	1.315	224
EL33	4.75	1.273	224
EL34	4.63	1.292	224
EL35	4.26	1.509	224
EL36	4.52	1.375	224
EL37	4.29	1.414	224
EL38	4.40	1.433	224
EL39	4.45	1.378	224
EL40	4.45	1.538	224
EL41	4.54	1.466	224
EL42	4.48	1.309	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EL26	72.18	276.365	.693	.582	.947
EL27	72.00	286.982	.540	.379	.949
EL28	71.89	274.545	.779	.686	.945
EL29	72.12	278.480	.772	.683	.945
EL30	72.13	277.294	.768	.686	.945
EL31	72.01	276.556	.785	.704	.945
EL32	72.08	283.742	.657	.500	.947
EL33	71.85	280.838	.753	.612	.946
EL34	71.97	281.214	.732	.601	.946
EL35	72.34	280.198	.636	.476	.948
EL36	72.08	275.339	.818	.743	.944
EL37	72.31	278.808	.715	.591	.946
EL38	72.20	277.686	.729	.620	.946
EL39	72.16	278.025	.754	.612	.945
EL40	72.16	283.182	.561	.365	.949
EL41	72.06	278.512	.693	.573	.947
EL42	72.12	284.313	.647	.496	.947

4.3.5 Reliability analysis: Behavioural Integrity Survey-Revised (BIS-R)

The BIS-R consists of 20 items without subscales. Item analysis was performed on the BIS-R and the results for the internal reliability are depicted in Table 4.13. The BIS-R revealed a Cronbach alpha of .954, which exceeds the minimum cut-off score of .70 (Pallant, 2007). Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The means ranged from 4.25 to 4.85 (on a 6-point scale) and the standard deviations ranged from 1.230 to 1.626 by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor. In addition, the squared multiple correlations were all larger than .30 and the results revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the integrity scale therefore did not raise any concerns and all the items of the scale were retained.

Table 4.13
Item statistics for the BIS-R

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.954	.954	20

Item Statistics

	Mean	Std. Deviation	N
Int1	4.41	1.389	224
Int2	4.44	1.475	224
Int3	4.56	1.441	224
Int4	4.55	1.400	224
Int5	4.51	1.452	224
Int6	4.65	1.468	224
Int7	4.59	1.449	224
Int8	4.61	1.301	224
Int9	4.55	1.371	224
Int10	4.70	1.394	224
Int11	4.68	1.337	224
Int12	4.54	1.532	224
Int13	4.79	1.537	224
Int14	4.48	1.626	224
Int15	4.60	1.230	224
Int16	4.64	1.435	224
Int17	4.49	1.573	224
Int18	4.85	1.258	224
Int19	4.25	1.486	224
Int20	4.49	1.596	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Int1	86.98	405.251	.614	.423	.952
Int2	86.94	397.571	.710	.556	.951
Int3	86.83	397.283	.734	.631	.951
Int4	86.83	396.500	.772	.642	.950
Int5	86.87	399.198	.693	.638	.951
Int6	86.73	394.780	.764	.700	.950
Int7	86.79	401.189	.659	.580	.952
Int8	86.78	401.842	.728	.611	.951
Int9	86.83	401.693	.690	.581	.951
Int10	86.69	396.951	.767	.695	.950
Int11	86.71	399.922	.744	.692	.951
Int12	86.85	396.102	.706	.652	.951
Int13	86.59	397.561	.678	.571	.951
Int14	86.90	393.748	.699	.597	.951
Int15	86.78	402.387	.762	.669	.951
Int16	86.74	395.717	.766	.687	.950
Int17	86.90	396.693	.676	.628	.952
Int18	86.54	407.721	.634	.515	.952
Int19	87.13	410.337	.481	.395	.954
Int20	86.90	396.469	.669	.559	.952

4.3.6 Reliability analysis: *Altruism* scale

The altruism scale comprised five items and no subscales. Table 4.14 presents the item statistics for the altruism scale. The altruism scale obtained a Cronbach alpha of .884. Inspection of the item means and item standard deviations revealed the absence of extreme means and small standard deviations. The mean ranged from 4.21 to 4.75 (on a 6-point scale) and the standard deviations ranged from 1.405 to 1.558, by which the absence of extreme means and small standard deviations was displayed and the absence of problem/poor items furthermore was indicated.

All the corrected item-total correlations were larger than .30, indicating that the correlation between each item and the total score calculated from the remaining items was satisfactory and that the items were reflecting the same underlying factor (Field, 2009). In addition, the squared multiple correlations were all larger than .30. The results furthermore revealed that none of the items, if deleted, would increase the current Cronbach alpha. The results of the item analysis of the altruism scale did not raise any concerns and all the items of the scale were retained.

Table 4.14
Item statistics for the altruism scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.884	.885	5

Item Statistics

	Mean	Std. Deviation	N
Altr21	4.68	1.495	224
Altr22	4.74	1.409	224
Altr23	4.45	1.558	224
Altr24	4.75	1.405	224
Altr25	4.21	1.534	224

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Altr21	18.14	25.334	.660	.460	.873
Altr22	18.08	24.706	.771	.610	.848
Altr23	18.38	23.957	.729	.566	.858
Altr24	18.08	25.375	.717	.523	.860
Altr25	18.62	24.102	.733	.546	.856

4.3.7 Summary of the item analysis results

The results of the item analysis performed on the various scales used to operationalise the latent variables in the structural model are summarised in Table 4.15. The Cronbach alpha values of all the scales exceeded the required .70 cut-off (Pallant, 2007). The reliability of the final scales used to represent the latent variables in the structural model depicted in Figure 2.2 can generally be considered satisfactory. Each scale was consequently considered to be internally consistent and reliable.

Table 4.15

Summary of the item analysis results

Scale	Mean	Std deviation	Cronbach's alpha	Number of items deleted	Number of items retained
Leadership Effectiveness Questionnaire	23.04	5.656	0.843	0	5
Ethical Climate Scale: Caring	31.21	7.284	0.848	0	7
Ethical Climate Scale: Law	18.83	4.345	0.792	0	4
Ethical Climate Scale: Rules	19.22	4.054	0.709	0	4
Ethical Climate Scale: Independence	13.12	5.889	0.840	0	4
Total Ethical Climate Scale	82.17	16.770	0.892	0	19
Organisational Justice Scale: Procedural Justice	30.30	8.006	0.861	0	7
Organisational Justice Scale: Interactional Justice	44.17	12.667	0.947	0	10
Organisational Justice Scale: Distributive Justice	19.41	6.918	0.872	0	5
Total Organisational Justice Scale	93.88	24.842	0.954	0	22
Leadership of Ethics Scale – Revised (LES -R)	76.6	17.736	0.949	0	17
Behavioural Integrity Survey - Revised (BIS-R)	91.83	21.012	0.954	0	20
Altruism Scale	22.83	6.124	0.884	0	5

4.4 EVALUATING THE MEASUREMENT MODELS

Confirmatory factor analysis (CFA) was performed in LISREL 8.80 (Jöreskog & Sörbom, 2006) on all six scales in order to test the goodness-of-fit between the hypothesised measurement models and the obtained data.

The ability of the measurement models to reproduce the observed covariance matrix is reflected in the measurement model's fit. The measurement model's fit is interpreted through inspection of the full array of fit indices provided by LISREL. The measurement models can be said to fit well if the reproduced covariance matrix approximates the observed covariance matrix (Diamantopoulos & Siguaw, 2000). The initial results of the Confirmatory Factor Analysis (CFA) are discussed per scale in terms of the p-value Test of Close Fit where $p > .05$ is indicative of good model fit as well as the Root Mean Square Error of Approximation (RMSEA). The RMSEA shows how well the model, with unknown but optimally chosen parameter values, would fit the population covariance matrix if it were available. It has been suggested by Theron (2012) and Diamantopoulos and Siguaw (2000) that RMSEA values less than .05 are indicative of good fit; RMSEA values greater than .05 but lower than .08 of

reasonable fit; RMSEA values greater than .08 but lower than .10 of mediocre fit; and RMSEA values greater than .10 are indicative of poor fit.

If poor fit was discovered, further investigation of the modification indices was required in order to determine the possibility of improving the model's fit. Consequently, consideration is also given to the completely standardised matrices for LAMBDA-X and the modification indices for THETA-DELTA. Factor loading estimates are considered satisfactory if the completely standardised factor loading estimates exceed .50 (Hair, Black, Babin, Anderson & Tatham, 2006).

4.4.1 Evaluating the Measurement Model Fit of the Leader Effectiveness Questionnaire

The leader effectiveness questionnaire (LEQ) is a measurement that was used in this study to measure the leader effectiveness latent variable. The rationale for the analysis of the measurement model was to test the individual fit of each measurement model in terms of goodness-of-fit statistics. These statistics were obtained through confirmatory factor analyses which been performed on the leader effectiveness scale. The fit indices are represented in Table 4.16.

4.4.1.1 Results: Absolute Fit Measures

CFA was performed on the leader effectiveness measurement model containing all five items remaining from the item analysis in order to assess whether the measurement model sufficiently fits the data.

Table 4.16

Goodness of fit indices for the Leader Effectiveness Questionnaire

Indices	Leader effectiveness scale
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	9.18 (p > 0.05)
χ^2/df (Degrees of Freedom = 5)	1.84
Root Mean Square Error of Approximation (RMSEA)	0.06
P-Value for Test of Close Fit (RMSEA < 0.05)	0.32
Root Mean Square Residual (RMR)	0.07
Standardised RMR	0.04
Goodness of Fit Index (GFI)	0.97
Incremental Fit Measures	
Normed Fit Index (NFI)	0.99
Non-Normed Fit Index (NNFI)	0.99
Adjusted Goodness of Fit Index (AGFI)	0.90
Comparative Fit Index (CFI)	0.99
Incremental Fit Index (IFI)	0.99

Relative Fit Index (RFI)	0.97

The reported indices in Table 4.16 indicated that satisfactory measurement model fit had been achieved. LISREL explicitly tests the null hypothesis of close fit. This indicates that the null hypothesis of close model fit (H_{02}: RMSEA ≤ .05) is not rejected at a 5% significance level ($p > .05$). The measurement model for leader effectiveness thus showed close fit. The null hypothesis of exact fit was not rejected ($p > .05$) which means that the model also achieved exact fit. In terms of the χ^2/df index, the measurement model did not succeed in reaching the 2 to 5 range, with a value of 1.84. The RMR value was not below .05, but the standardised RMR value was below .05, which indicates good fit. The GFI exceeded .9 and consequently reached a satisfactory value close to 1, which indicates that the model comes close to reproducing the sample covariance matrix.

4.4.1.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model achieved Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), Relative Fit Index (RFI) and Adjusted Goodness of Fit Index (AGFI) values that exceed the critical value of .90. These relative or comparative fit indices therefore appear to indicate a positive depiction of model fit. The hypothesis being tested is that the model fits in the population. The question is whether the sample deviations for exact/close fit can be ascribed to chance.

In addition, the completely standardised Λ_x in Table 4.17, below, is used to interpret the magnitude of λ_{ij}. The values shown in the completely standardised solution loading matrix represents the slopes of the regression of the standardised items on the standardised latent leader effectiveness dimension the item was designed to represent. The completely standardised loadings therefore indicate the average change expressed in standard deviations in the item associated with one standard deviation change in the latent variable. All items loaded satisfactorily (> .50) on the latent variable, which means that all items adequately represent the dimension (leader effectiveness) they were designed to reflect.

Table 4.17

Completely standardised LAMBDA-X matrix for the Leader Effectiveness Questionnaire

	LEADEFF

LE1	0.69
LE2	0.62
LE3	0.78
LE4	0.71

LE5	0.78

4.4.1.3 Conclusion

Through examination of the reported fit indices, it was found that the null hypothesis of exact fit for the leader effectiveness measurement model was not rejected. This is an indication that the measurement model achieved exact fit in the population. It can therefore be said that the measurement model of the leader effectiveness questionnaire provided an exact explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda_{ij} > .05$) factor loadings suggest that the operationalisation of the leader effectiveness latent variable was successful.

4.4.2 Evaluating the Measurement Model Fit of the Ethical Climate Scale

All nineteen items of the Ethical climate scale were subjected to CFA in order to measure the fit of the measurement model to the data. It was determined that the model initially obtained a mediocre fit with a p-value test of close fit of .00 and RMSEA of .0997. This indicates that the null hypothesis of close model fit (H_{02}: RMSEA ≤ .05) was rejected at a 5% significance level ($p < .05$). According to the above-mentioned criteria, the model's RMSEA value of .0997 furthermore suggests poor model fit.

Since the above results indicated a poor fit, it was decided to scrutinise the modification indices of THETA-DELTA in order to investigate the different index values in more detail and to improve the fit of the model. Model modification indices are intended to answer the question whether any of the currently fixed parameters, when freed in the model, would significantly improve the parsimonious fit of the model.

Modification indices (MI) indicate the extent to which the chi-square fit statistic decreases when a currently fixed parameter in the model is freed and the model re-estimated (Jöreskog & Sörbom, 1993). Large modification index values (> 6.64 at a significance level of .01) are indicative of parameters that, if set free, would improve the fit of the model significantly ($p <.01$) (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1993). Siguaw (2000) suggested that modifications to the model based on these statistics should be theoretically/substantially justified. Modification indices calculated for THETA-DELTA matrix which were examined are presented in Table 4.18.

Table 4.18

Modification indices for THETA-DELTA for the Ethical Climate Scale

	EC1	EC2	EC3	EC4	EC5	EC6
EC1	- -					
EC2	26.905	- -				
EC3	0.449	28.834	- -			
EC4	1.777	6.185	3.486	- -		
EC5	7.024	16.787	3.440	11.043	- -	
EC6	8.804	3.712	4.576	2.352	20.451	- -
EC7	7.049	18.612	4.337	10.185	16.343	39.891
EC8	0.154	0.134	0.266	4.237	3.116	2.272
EC9	0.120	2.574	1.229	0.001	0.170	0.004
EC10	0.419	9.757	0.342	0.773	0.750	0.000
EC11	0.022	2.781	0.097	5.366	4.468	0.060
EC12	0.001	1.270	1.572	0.488	1.568	0.202
EC13	3.472	2.041	5.515	5.124	21.617	1.132
EC14	1.587	6.447	3.391	21.562	14.954	3.612
EC15	3.087	1.649	5.927	8.118	7.646	1.872
EC16	0.531	1.055	3.314	1.423	1.789	1.184
EC17	1.512	0.004	3.176	3.106	2.338	4.223
EC18	0.495	0.840	0.634	0.028	0.166	0.358
EC19	1.941	0.648	1.539	0.305	1.512	2.712

	EC7	EC8	EC9	EC10	EC11	EC12
EC7	- -					
EC8	8.882	- -				
EC9	3.201	2.346	- -			
EC10	3.817	0.404	33.065	- -		
EC11	1.213	5.136	8.456	0.397	- -	
EC12	1.297	0.070	2.727	7.352	2.033	- -
EC13	1.505	1.520	0.969	0.202	3.786	- -
EC14	4.040	1.141	0.112	0.288	13.810	9.271
EC15	2.905	0.464	3.708	0.490	4.487	12.773
EC16	0.748	1.295	3.770	2.357	5.715	2.997
EC17	3.052	0.014	0.408	0.055	0.139	5.279
EC18	1.143	0.000	0.132	0.058	2.689	0.237
EC19	0.132	0.117	2.216	0.457	0.403	5.523

	EC13	EC14	EC15	EC16	EC17	EC18
EC13	- -					
EC14	3.997	- -				
EC15	1.012	39.804	- -			
EC16	0.019	4.464	5.398	- -		
EC17	1.506	20.170	1.625	0.043	- -	
EC18	2.404	3.976	0.489	- -	- -	- -
EC19	1.036	0.206	1.685	9.454	11.255	- -

	EC19
EC19	- -

After having investigated the nature of items EC5, EC7 and EC14 it was not sufficiently clear whether these were characterising ethical climate activities; consequently, it was decided to remove them. These, as well as other items were cause for concern and were selected for deletion because of lower factor loadings. After deletion of the three items, confirmatory factor analysis was performed on the remaining items in the ethical climate scale. The fit indices of the revised ethical climate scale are presented in Table 4.19. The improved fit indices present a p-value test of close fit of .693 and a RMSEA of .045, which indicate good fit.

4.4.2.1 Evaluating the Measurement Model fit of the Revised Ethical Climate Scale

The goodness-of-fit statistics for the revised ethical climate measurement model are indicated in Table 4.19 and discussed in the following section.

Table 4.19

Fit statistics for the Revised Ethical Climate measurement model

Indices	Ethical climate
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	141.780 ($p < 0.05$)
χ^2/df (Degrees of freedom = 98)	1.447
Root Mean Square Error of Approximation (RMSEA)	0.045
P-Value for Test of Close Fit (RMSEA < 0.05)	0.693
Root Mean Square Residual (RMR)	0.183
Standardised RMR	0.075
Goodness of Fit Index (GFI)	0.897
Incremental Fit Measures	
Normed Fit Index (NFI)	0.957
Non-Normed Fit Index (NNFI)	0.983
Adjusted Goodness of Fit Index (AGFI)	0.857
Comparative Fit Index (CFI)	0.986
Incremental Fit Index (IFI)	0.986
Relative Fit Index (RFI)	0.947

4.4.2.1.1 Results: Absolute Fit Measures

The reported indices indicated that satisfactory measurement model fit was achieved after the refinement of the model. The null hypothesis of exact fit was rejected ($p \leq .05$). In terms of the χ^2/df index, the measurement model did not succeed in reaching the 2 to 5 range, with a value of 1.447. The RMR and Standardised RMR values did not reach the cut-off value of .05 and the GFI failed to exceed .90, but still reached a satisfactory value close to 1. Thus, the model reproduced the sample covariance matrix.

4.4.2.1.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model achieves NFI, NNFI, IFI, CFI and RFI index values which exceed the critical value of .90. AGFI, however, is an incremental fit index which only reached the value of .857. Although this value is marginally below the required .90, it is still considered to represent satisfactory fit. These relative or comparative indices therefore appear to portray a positive depiction of model fit. The results further seemed to indicate that the model can be ascribed to more than chance.

All the items of the unstandardised Λ_X (not shown) loaded satisfactorily ($p < .05$) on their designed factors. In addition the completely standardised LAMBDA-X matrix for the revised ethical climate scale is indicated in Table 4.20. All items except for EC15 loaded statistically significantly (> .50) on the latent variable. However, the factor loading of item EC15 was still satisfactory (> 0.30).

Table 4.20

Completely Standardised LAMBDA-X matrix for the Revised Ethical Climate scale

	CARING	LAW	RULES	INDEPEND
EC1	0.712	- -	- -	- -
EC2	0.867	- -	- -	- -
EC3	0.740	- -	- -	- -
EC4	0.570	- -	- -	- -
EC6	0.583	- -	- -	- -
EC8	- -	0.678	- -	- -
EC9	- -	0.773	- -	- -
EC10	- -	0.770	- -	- -
EC11	- -	0.582	- -	- -
EC12	- -	- -	0.888	- -
EC13	- -	- -	0.840	- -
EC15	- -	- -	0.485	- -
EC16	- -	- -	- -	0.660
EC17	- -	- -	- -	0.711
EC18	- -	- -	- -	0.874
EC19	- -	- -	- -	0.733

4.4.2.2 Conclusion

Through examination of the reported fit indices, it was found that the null hypothesis of close fit for the refined ethical climate measurement model was not rejected (H_0: RMSEA ≤ 0.05). This is an indication that the measurement model fitted the data reasonably well and that the quality of the fit is good. It can therefore be said that the refined ethical climate measurement model provides a credible explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda ij > .05$) factor loadings suggest that the operationalisation of the ethical climate latent variable was successful

4.4.3 Evaluating the Measurement Model fit of the Organisational Justice scale

4.4.3.1 Results: Absolute Fit Measures

All twenty-two items of the Ethical climate scale were subjected to CFA in order to measure the fit of the measurement model to the data. The initial inspection of the fit statistics in Table 4.21 indicates that this model achieved good model fit (p-value of close fit = .783; RMSEA = .045). LISREL explicitly tests the null hypothesis of close fit. Table 4.21 indicates that the null hypothesis of close model fit (H_{02}: RMSEA ≤ .05) was not rejected at a 5% significance level ($p > .05$). The measurement model for organisational justice thus showed close fit in the parameter.

The reported indices indicated that satisfactory measurement model fit had been achieved. The null hypothesis of exact fit was rejected ($p < .05$). With regard to the χ^2/df index, the measurement model failed to reach the 2 to 5 range, with a value of 1.44. The RMR value was not below .05, but the standardised RMR values were however below .05, which indicated good fit. Although the GFI did not exceed .90, the value of .839 could be regarded as a satisfactory value close to 1. This furthermore signified that the model reproduced the sample covariance matrix.

Table 4.21

Goodness of fit indices for the Organisational Justice scale

Indices	Organisational justice scale
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	297.412 (p < 0.05)
□²/df (Degrees of Freedom =206)	1.44
Root Mean Square Error of Approximation (RMSEA)	0.045
P-Value for Test of Close Fit (RMSEA < 0.05)	0.783
Root Mean Square Residual (RMR)	0.118
Standardised RMR	0.046
Goodness of Fit Index (GFI)	0.839
Incremental Fit Measures	
Normed Fit Index (NFI)	0.976
Non-Normed Fit Index (NNFI)	0.992
Adjusted Goodness of Fit Index (AGFI)	0.803
Comparative Fit Index (CFI)	0.993
Incremental Fit Index (IFI)	0.993
Relative Fit Index (RFI)	0.973

4.4.3.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model achieved NFI, NNFI, IFI, CFI and RFI index values exceeding the critical value of .90. AGFI as an incremental fit index reached the value of .803, which could be regarded as representing reasonable fit. These relative or comparative indices therefore appear to portray a positive depiction of model fit.

The completely standardised LAMBDA-X matrix indicated the average change expressed in standard deviations in the item associated with one standard deviation change in the latent variable. As presented in Table 4.22, all items loaded satisfactorily (> .50) on the latent variable, which means that all items sufficiently represent the dimension they were designed to reflect.

Table 4.22

Completely standardised LAMBDA-X matrix for the Organisational Justice scale

	PJ	IJ	DJ
OJ1	0.50	- -	- -
OJ2	0.69	- -	- -
OJ3	0.77	- -	- -
OJ4	0.77	- -	- -
OJ5	0.64	- -	- -
OJ6	0.63	- -	- -
OJ7	0.77	- -	- -
OJ8	- -	0.83	- -
OJ9	- -	0.85	- -
OJ10	- -	0.80	- -
OJ11	- -	0.58	- -
OJ12	- -	0.85	- -
OJ13	- -	0.84	- -
OJ14	- -	0.76	- -
OJ15	- -	0.83	- -
OJ16	- -	0.77	- -
OJ17	- -	0.78	- -
OJ18	- -	- -	0.64
OJ19	- -	- -	0.69
OJ20	- -	- -	0.79
OJ21	- -	- -	0.80
OJ22	- -	- -	0.86

4.4.3.3 Conclusion

In the reported fit indices of the organisational justice model, it was established that the null hypothesis of close fit could not be rejected (H_0: RMSEA ≤ 0.05). This reveals that the measurement model fits the data well. It can therefore be concluded that the measurement model of the organisational justice scale provides a credible explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda ij > .05$) factor loadings suggest that the operationalisation of the organisational justice latent variable was successful.

4.4.4 Evaluating the Measurement Model Fit of the Leader of Ethics scale

All seventeen items of the Leader of Ethics Scale (LES) were subjected to CFA in order to measure the fit of the measurement model to the data. The following results were obtained.

4.4.4.1 Results: Absolute Fit Measures

After initial inspection of the fit statistics as presented in Table 4.23, it was found that an acceptable model fit had been achieved (RMSEA = .05; p-value test of close fit = .70). This indicates that the null hypothesis of close model fit (H_{02}: RMSEA ≤ .05) is not rejected at a 5% significance level ($p > .05$). The measurement model for ethical leadership hence proved to have close fit.

The other reported indices indicated that satisfactory measurement model fit of the LES model had been achieved. Although the null hypothesis of exact fit is rejected ($p \leq .05$); in terms of the χ^2/df index, the measurement model did not succeed to reach the 2 to 5 range, with a value of 1.454. The Standardised RMR value is below .05, which indicates good fit. Conversely RMR failed to reach the below .05 level. The GFI failed to exceed 0.9, but still reached a satisfactory value close to 1 which indicated that the model came close to reproducing the sample covariance matrix.

Table 4.23

Goodness of fit indices for the Leader of Ethics scale

Indices	LES
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	173.029 (p < 0.05)
□²/df (Degrees of Freedom =119)	1.454
Root Mean Square Error of Approximation (RMSEA)	0.045
P-Value for Test of Close Fit (RMSEA < 0.05)	0.699
Root Mean Square Residual (RMR)	0.079
Standardised RMR	0.040
Goodness of Fit Index (GFI)	0.887
Incremental Fit Measures	
Normed Fit Index (NFI)	0.979
Non-Normed Fit Index (NNFI)	0.993
Adjusted Goodness of Fit Index (AGFI)	0.854
Comparative Fit Index (CFI)	0.993
Incremental Fit Index (IFI)	0.993
Relative Fit Index (RFI)	0.976

4.4.4.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model's NFI, NNFI, IFI, CFI and RFI index values exceeded the critical value of .90. AGFI, however, is an incremental fit index which only reached the value of .854. Although this value is slightly below the required .90, it is still considered to represent satisfactory fit. These relative or comparative indices therefore appear to portray a positive depiction of model fit. The results, furthermore, seem to indicate that the model fits in the population.

The completely standardised LAMBDA-X matrix in Table 4.24 is furthermore utilised to determine the significance of the factor loadings hypothesised by the ethical leadership measurement model. All items loaded significantly (> .50) on the latent variable, which means that all items sufficiently represent the dimension they were designed to reflect.

Table 4.24

Completely standardised LAMBDA-X matrix for the Ethical Leadership scale

	ETHLEAD
EL26	0.699
EL27	0.568
EL28	0.793
EL29	0.772
EL30	0.795
EL31	0.802
EL32	0.660
EL33	0.782
EL34	0.760
EL35	0.646
EL36	0.827
EL37	0.717
EL38	0.747
EL39	0.755
EL40	0.574
EL41	0.700
EL42	0.640

4.4.4.3 Conclusion

Through inspecting the reported fit indices, it was discovered that the null hypothesis of close fit for the LES measurement model cannot be rejected (H_0: RMSEA ≤ 0.05). This is an indication that the measurement model fits the data well and it can therefore be said that the measurement model of the LES provides a credible explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda ij > .05$) factor loadings suggest that the operationalisation of the ethical leadership latent variable was successful.

4.4.5 Evaluating the Measurement Model Fit of the Revised Behavioural Integrity Scale

CFA was performed on all the 20 items in the BIS-R. After initial inspection of the fit statistics, it was found that the RMSEA (.072) was within reasonable limits (< .08) (Diamantopoulos & Siguaw, 2000).The results further revealed that the p-value of close fit (.000) had to be rejected.

Additional investigation was necessary to attempt improvement of the fit of the measurement model to the data. The modification indices for THETA-DELTA were inspected to identify and set free parameters with high modification index values (> 6.6349) in order to facilitate considerable improvement of the fit of the model. Table 4.25 indicates the modification indices for THETA-DELTA. Careful consideration resulted in the deletion of items INT13 and INT19. These, as well as other items were cause for concern, but were selected for deletion

because of their lower factor loadings. The deletion of these items resulted in significant improvement in the fit indices, as indicated in Table 4.26. The improved fit indices present a p-value test of close fit of .084 and a RMSEA of .060, which indicates that H_{02} was not rejected.

Table 4.25

Modification Indices for THETA-DELTA for the BIS-R

	Int1	Int2	Int3	Int4	Int5	Int6
Int1	- -					
Int2	0.358	- -				
Int3	0.000	1.259	- -			
Int4	0.162	0.484	2.969	- -		
Int5	0.002	2.134	3.605	0.960	- -	
Int6	0.233	0.026	1.509	2.585	21.412	- -
Int7	0.195	1.223	2.581	1.352	4.726	5.765
Int8	0.187	0.006	0.621	5.919	3.042	0.152
Int9	0.001	0.483	1.809	0.320	1.758	2.835
Int10	1.105	0.025	1.435	0.241	8.917	3.468
Int11	1.279	1.206	1.881	0.321	2.444	0.609
Int12	0.537	0.260	0.917	0.812	0.149	0.008
Int13	3.070	0.593	9.663	0.162	1.513	1.826
Int14	0.071	0.083	6.461	0.009	1.992	0.610
Int15	0.160	3.724	0.051	5.313	1.813	4.962
Int16	0.000	1.949	0.253	1.817	6.190	4.016
Int17	0.047	0.082	0.284	0.001	0.179	1.265
Int18	2.711	0.641	0.444	0.053	9.890	3.350
Int19	2.305	0.004	2.786	0.014	12.829	4.291
Int20	0.006	0.008	2.128	0.032	4.415	3.937

	Int7	Int8	Int9	Int10	Int11	Int12
Int7	- -					
Int8	0.063	- -				
Int9	6.495	3.546	- -			
Int10	7.077	2.098	0.589	- -		
Int11	19.914	0.524	1.153	13.934	- -	
Int12	0.366	1.452	3.657	0.047	4.575	- -
Int13	3.545	0.458	4.104	1.607	11.803	0.198
Int14	1.671	5.962	1.667	3.372	6.336	0.742
Int15	0.063	2.500	4.068	2.248	3.595	0.077
Int16	5.325	0.419	0.892	0.162	0.807	12.324
Int17	12.036	2.023	4.982	3.162	3.129	24.221
Int18	2.431	0.057	2.247	4.176	4.459	1.744
Int19	5.542	0.263	7.376	1.721	5.631	1.355
Int20	2.130	0.626	1.397	2.963	1.284	3.961

	Int13	Int14	Int15	Int16	Int17	Int18
Int13	- -					
Int14	31.308	- -				
Int15	8.803	15.290	- -			
Int16	0.301	0.764	2.074	- -		
Int17	2.723	0.559	0.040	0.036	- -	
Int18	2.643	10.404	2.903	2.475	2.648	- -
Int19	1.815	4.779	5.313	0.234	0.009	22.352
Int20	3.325	5.833	4.051	0.049	10.038	1.815

	Int19	Int20
Int19	- -	
Int20	12.894	- -

Table 4.26

Fit statistics for the refined BIS-R measurement model

Indices	BIS-R
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	243.848 ($p < 0.05$)
χ^2/df (Degrees of freedom = 135)	1.806
Root Mean Square Error of Approximation (RMSEA)	0.060
P-Value for Test of Close Fit (RMSEA < 0.05)	0.084
Root Mean Square Residual (RMR)	0.102
Standardised RMR	0.049
Goodness of Fit Index (GFI)	0.848
Incremental Fit Measures	
Normed Fit Index (NFI)	0.972
Non-Normed Fit Index (NNFI)	0.985
Adjusted Goodness of Fit Index (AGFI)	0.808
Comparative Fit Index (CFI)	0.987
Incremental Fit Index (IFI)	0.987
Relative Fit Index (RFI)	0.968

4.4.5.1 Results: Absolute Fit Measures

After the refinement of the model, the reported indices displayed that satisfactory measurement model fit had been achieved. The null hypothesis of exact fit was rejected ($p \leq .05$); in terms of the χ^2/df index, the measurement model did not succeed in reaching the 2 to 5 range, with a value of 1.806. The RMR did not reach the cut-off value of .05, but the Standardised RMR value was below .05, which indicates good fit. The GFI failed to exceed 0.90, but still reached a satisfactory value close to 1, which indicated that the model came close to reproducing the sample covariance matrix.

4.4.5.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model achieved NFI, NNFI, IFI, CFI and RFI indices exceeded the critical value of 0.90. AGFI is an incremental fit index, however, which only reached the value of .808. Although this value is marginally below the required .90, it is still considered to represent satisfactory fit. These relative or comparative indices therefore appeared to portray a positive depiction of model fit. The results further seemed to indicate that the model can be ascribed to more than chance.

The completely standardised LAMBDA-X matrix for the refined BIS-R is presented in Table 4.27. All items loaded satisfactorily (> 0.50) on the latent variable.

Table 4.27

Completely Standardised LAMBDA-X matrix for the refined BIS-R.

	INTEGRIT

Int1	0.579
Int2	0.699
Int3	0.773
Int4	0.753
Int5	0.715
Int6	0.789
Int7	0.702
Int8	0.727
Int9	0.654
Int10	0.776
Int11	0.788
Int12	0.701
Int14	0.657
Int15	0.728
Int16	0.747
Int17	0.656
Int18	0.572
Int20	0.658

4.4.5.3 Conclusion

The reported fit indices of the refined BIS-R revealed that the null hypothesis of close fit for the refined BIS-R measurement model could not be rejected (H_0: RMSEA ≤ 0.05). This reveals that the measurement model fitted the data reasonably well. It can therefore be accepted that the BIS-R measurement model provides a credible explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda ij > .05$) factor loadings suggest that the operationalisation of the integrity latent variable was successful.

4.4.6 Evaluating the Measurement Model Fit of the Altruism Scale

CFA was performed on the altruism measurement model containing all five items remaining from the item analysis. The subsequent results were attained.

4.4.6.1 Results: Absolute Fit Measures

The goodness-of-fit statistics for the altruism measurement model are indicated in Table 4.28 and discussed in the following section. The RMSEA (.051) and p-value test of close fit (.412) indicated close fit. The null hypothesis of close fit was therefore not rejected. The results of the full range of fit indices are reported in Table 4.28.

Table 4.28

Goodness of fit indices for the Altruism scale

Indices	Altruism scale
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	7.951 (p > 0.05)
χ^2/df (Degrees of Freedom = 65)	1.59
Root Mean Square Error of Approximation (RMSEA)	0.051
P-Value for Test of Close Fit (RMSEA < 0.05)	0.412
Root Mean Square Residual (RMR)	0.059
Standardised RMR	0.026
Goodness of Fit Index (GFI)	0.980
Incremental Fit Measures	
Normed Fit Index (NFI)	0.990
Non-Normed Fit Index (NNFI)	0.992
Adjusted Goodness of Fit Index (AGFI)	0.939
Comparative Fit Index (CFI)	0.996
Incremental Fit Index (IFI)	0.996
Relative Fit Index (RFI)	0.979

The reported indices indicated that satisfactory measurement model fit of the altruism latent variable had been achieved. The null hypothesis of exact fit was not rejected (p > .05), which indicates that exact model fit was achieved. In terms of the χ^2/df index, the measurement model did not succeed in reaching the 2 to 5 range, with a value of 1.59. The Standardised RMR value is below .05, which indicates good fit. Conversely RMR failed to reach .05. The GFI exceeded 0.90, which indicates that the model came close to reproducing the sample covariance matrix.

4.4.6.2 Results: Incremental Fit Measures

The results of the incremental fit measures indicate that the measurement model achieved NFI, NNFI, IFI, CFI, RFI and AGFI indices which exceeded the critical value of .90. These relative or comparative indices therefore appeared to portray a positive depiction of model fit. The results indicate that the sample deviations from exact/close fit cannot be ascribed to chance.

Furthermore, the completely standardised LAMBDA-X matrix was used to interpret the magnitude of λij. This is illustrated in Table 4.29. The values shown in the completely standardised solution loading matrix represents the slopes of the regression of the standardised items on the standardised latent altruism dimension that the item was designed to represent. The completely standardised loadings therefore indicate the average change expressed in standard deviations in the item associated with one standard deviation change

in the latent variable. All items loaded satisfactorily (> .50) on the latent variable, which means that all items represent the dimension they were designed to reflect satisfactorily.

Table 4.29

Completely standardised LAMBDA-X matrix for the Altruism scale

	ALTRUISM

Altr21	0.68
Altr22	0.82
Altr23	0.79
Altr24	0.77
Altr25	0.76

4.4.6.3 Conclusion

Through examination of the reported fit indices, it was found that the null hypothesis of close fit for the altruism measurement model was not rejected (H_0: RMSEA ≤ 0.05). This is an indication that the measurement model fitted the data well and that the quality of the fit is good. It can therefore be said that the altruism measurement model provides a credible explanation of the observed covariance matrix. The good model fit in conjunction with the significant ($p < .05$) and large ($\lambda ij > .05$) factor loadings suggest that the operationalisation of the altruism latent variable was successful.

4.5 ITEM PARCELLING

The choice to utilise item parcelling was described in section 3.5.2.1. Only those items that remained in the scale after the item and confirmatory factor analyses were used in the calculation of indicator variables to represent each of the latent variables in the structural model.

4.6 DATA SCREENING PRIOR TO CONFIRMATORY FACTOR ANALYSIS AND THE FITTING OF THE STRUCTURAL MODEL

Multivariate statistics in general and structural equation modelling, in particular, were based on a number of critical assumptions. Before proceeding with the main analyses it was necessary to assess the extent to which the data complied with these assumptions (Tabachnick & Fidell, 2001). Failure of the data to satisfy these assumptions can seriously erode the quality of obtained solutions. The effect of non-normality in particular was considered. The default method of estimation when fitting measurement and structural models to continuous data (maximum likelihood) assumes that the distribution of indicator variables follow a multivariate normal distribution (Mels, 2003). Failure to satisfy this assumption results in incorrect standard errors and chi-square estimates (Du Toit & Du Toit, 2001; Mels, 2003).

The univariate and multivariate normality of the composite item parcels in this study was evaluated via PRELIS. Univariate tests examine each variable individually for departures from normality. This is done by examining whether the standardised coefficients of skewness and kurtosis are significantly different from zero. Departures from normality are indicated by significant skewness and/or kurtosis values. If any of the observed variables deviate substantially from univariate normality, the multivariate distribution cannot be normal. However, the converse is not true: if all the univariate distributions are normal, it does not necessarily mean multivariate normality. Consequently, it is also important to examine multivariate values of skewness and kurtosis and not solely investigate univariate normality.

The indicator variables were evaluated first in terms of their univariate and multivariate normality. Following this, the data were normalised through PRELIS, after which the indicator variables were again evaluated in terms of their univariate and multivariate normality. The results of the tests of univariate and multivariate normality of the leader effectiveness indicator variable distributions are depicted in Tables 4.30 and 4.31.

4.6.1 Results before normalisation

Table 4.30

Test of univariate normality before normalisation

	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
INT_1	-6.639	0.000	3.412	0.001	55.725	0.000
INT_2	-6.271	0.000	2.875	0.004	47.587	0.000
ALTR_1	-5.183	0.000	0.803	0.422	27.514	0.000
ALTR_2	-6.277	0.000	2.523	0.012	45.769	0.000
ETHL_1	-5.517	0.000	2.237	0.025	35.443	0.000
ETHL_2	-5.149	0.000	1.822	0.069	29.826	0.000
PJ	-4.913	0.000	1.086	0.277	25.319	0.000
IJ	-5.404	0.000	0.958	0.338	30.117	0.000
DJ	-2.392	0.017	-3.370	0.001	17.082	0.000
CARING	-3.677	0.000	0.213	0.831	13.564	0.001
LAW	-5.977	0.000	3.191	0.001	45.912	0.000
RULES	-6.535	0.000	3.454	0.001	54.645	0.000
INDEP	0.614	0.539	-7.077	0.000	50.464	0.000
LEFFE_1	-4.990	0.000	0.946	0.344	25.790	0.000
LEFFE_2	-6.265	0.000	3.180	0.001	49.365	0.000

Table 4.31

Test of multivariate normality before normalisation

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-Score	P-Value	Value	Z-Score	P-Value	Chi-Square	P-Value
45.704	19.870	0.000	330.939	12.782	0.000	558.189	0.000

The chi-square value for skewness and kurtosis in Table 4.30 indicates that all 15 indicator variables failed the test of univariate normality ($p < .05$). Furthermore, the null hypothesis that the data follows a multivariate normal distribution also had to be rejected ($\chi^2 = 558.19$; $p < .05$). Since the quality of the solution obtained in structural equation modelling is to a large extent dependent on multivariate normality, it was decided to normalise the variables through PRELIS. The results of the test for univariate normality on the normalised indicator variables are presented in Table 4.32 and the results of the test for multivariate normality in Table 4.33.

Table 4.32

Test of univariate normality after normalisation

	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
INT_1	-0.078	0.938	-0.253	0.800	0.070	0.965
INT_2	-0.157	0.875	-0.422	0.673	0.203	0.904
ALTR_1	-0.592	0.554	-1.656	0.098	3.093	0.213
ALTR_2	-1.793	0.073	-2.946	0.003	11.894	0.003
ETHL_1	-0.173	0.863	-0.350	0.726	0.152	0.927
ETHL_2	-0.202	0.840	-0.401	0.688	0.202	0.904
PJ	-0.178	0.858	-0.346	0.729	0.151	0.927
IJ	-0.256	0.798	-0.627	0.531	0.459	0.795
DJ	-0.160	0.873	-1.380	0.168	1.930	0.381
CARING	-0.237	0.813	-0.683	0.495	0.522	0.770
LAW	-0.771	0.441	-1.376	0.169	2.488	0.288
RULES	-1.987	0.047	-2.486	0.013	10.127	0.006
INDEP	0.319	0.750	-1.612	0.107	2.701	0.259
LEFFE_1	-1.028	0.304	-1.873	0.061	4.564	0.102
LEFFE_2	-1.217	0.224	-2.250	0.024	6.545	0.038

Table 4.33

Test of multivariate normality after normalisation

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-Score	P-Value	Value	Z-Score	P-Value	Chi-Square	P-Value
30.115	10.112	0.000	294.948	8.896	0.000	181.395	0.000

The results indicate that the normalisation procedure succeeded in rectifying the univariate normality problem on the indicator variables and that only 3 out of 15 individual variables failed to display a univariate normal distribution ($p < .05$). The results indicate that, even after a normalisation procedure, the null hypothesis that the data follows a multivariate normal distribution still had to be rejected ($\chi^2 = 181.395$; $p < .05$). Since the normalisation had the effect of reducing the deviation of the observed indicator distribution from the theoretical multivariate normal distribution, as is evidenced by the decrease in the chi-square statistic, the normalised data set was used in the subsequent analyses. Since the normalisation failed to solve the lack of multivariate normality robust maximum likelihood was used.

4.7 EVALUATING THE FIT OF THE OVERALL MEASUREMENT MODEL

The measurement model represents the relationships between the latent variables and the corresponding indicator variables. The path diagram for the overall refined measurement model is presented in Figure 4.1. The path diagram for the overall measurement model illustrates that all parcels comprising each of the sub-scales and scales that were used in this study appeared to load satisfactorily on the respective latent variables.

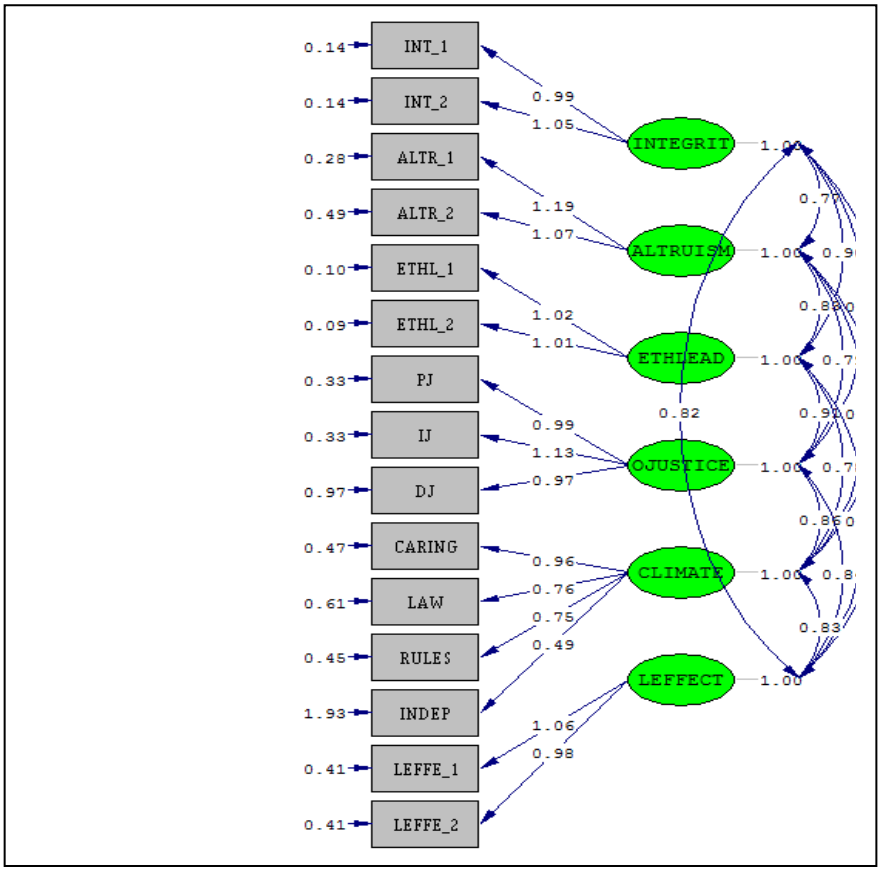

Figure 4.1. Representation of the fitted overall measurement model (completely unstandardised solution).

The results of the analysis are discussed below in terms of:

1. An evaluation of overall measurement model fit, based on the array of model fit indices as reported by LISREL;
2. An interpretation of the unstandardised LAMBDA-X and THETA-DELTA matrices;
3. The standardised residuals;
4. Squared multiple correlations; and
5. The modification indices for LAMBDA-X and THETA-DELTA

4.7.1 Fit indices of the overall measurement model

The results of the full range of fit indices reported in Table 4.34 indicate that the p-value associated with the Satorra Bentler χ^2 ($p = .00$) demonstrates a significant test statistic ($p < .05$). This suggests that the discrepancy between the covariance matrix implied by the measurement model and the observed covariance matrix to a degree of accuracy in the sample cannot be explained by sampling error only. It is therefore unlikely that the discrepancy between the observed and reproduced matrices in the sample would have arisen by chance if the exact fit null hypothesis is true in the population.

The Root Mean Square Error of Approximation (RMSEA) calculated by LISREL was used to test H_{02}: RMSEA ≤ .05 against H_{a2}: RMSEA > .05. According to Diamantopoulos and Siguaw's (2000) criteria, the model RMSEA value of .057 suggests reasonably good model fit. Table 4.34 indicates that the null hypothesis of close model fit (H_{02}: RMSEA ≤ .05) was not rejected at a 5% significance level ($p > .05$).

The Root Mean Square Residual (RMR) of the measurement model is reported to be .05. According to Kelloway (1998), low values are an indication of good fit. This scale is sensitive to the scale of measurement of the model variables, however, and it is therefore difficult to determine what qualifies as a low value. Kelloway further states that LISREL provides the standardised RMR, which is a better index and indicates that values lower than .05 represents good fit. The standardised RMR value of this measurement model is .033, which falls below the cut-off value and therefore indicated good fit.

The goodness-of-fit index ranges from 0 to 1 and "is based on the ratio of the sum of the squared discrepancies to the observed variance" (Kelloway, 1998, p. 27). Values above .90 indicate a good fit of the model. The adjusted goodness-of-fit index (AGFI) is an adjustment of the GFI for the degrees of freedom. Values above .90 also indicate good fit. The GFI (.918) achieved the ideal value of .90 and the AGFI (.869) of this model nearly achieved the ideal value of .90. According to these indices, the measurement model can be said to achieve good fit.

Comparative fit is an incremental fit index that "measures the relevant improvement in the fit of the researcher's model over that of a baseline model, typically the independence model" (Kline, 2011, p. 208). The incremental fit indices, namely the NFI (.984), NNFI (.990), CFI (.993), IFI (.993) and RFI (.977), are above .90, which indicate good comparative fit relative to the independence model.

The examination of the goodness-of-fit indices resulted in the conclusion that the overall measurement model fitted the data reasonably well. First, the null hypothesis of exact fit was rejected ($p < 0.05$). The null hypothesis of close fit was not rejected ($p>.05$). The measurement model therefore displayed reasonably good fit.

To ensure a thorough assessment of fit, and especially because overall measures of fit indicated that the measurement model fitted the data only reasonably well, it was necessary to investigate the standardised residuals and modification indices to further determine the success with which the model explains the observed covariance amongst the manifest variables (Jöreskog & Sörbom, 1993). This leads to the expectation that there will be discussed next and that a find verdict on model

Table 4.34

Fit indices for the comprehensive measurement model

Degrees of Freedom = 75
Minimum Fit Function Chi-Square = 151.581 (P = 0.000)
Normal Theory Weighted Least Squares Chi-Square = 148.578 (P = 0.000)
Satorra-Bentler Scaled Chi-Square = 129.670 (P = 0.000)
Chi-Square Corrected for Non-Normality = 204.767 (P = 0.00)
Estimated Non-centrality Parameter (NCP) = 54.670
90 Percent Confidence Interval for NCP = (26.954 ; 90.252)

Minimum Fit Function Value = 0.680
Population Discrepancy Function Value (F0) = 0.245
90 Percent Confidence Interval for F0 = (0.121 ; 0.405)
Root Mean Square Error of Approximation (RMSEA) = 0.0572
90 Percent Confidence Interval for RMSEA = (0.0401 ; 0.0735)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.228

Expected Cross-Validation Index (ECVI) = 0.985
90 Percent Confidence Interval for ECVI = (0.861 ; 1.145)
ECVI for Saturated Model = 1.076

ECVI for Independence Model = 35.778
Chi-Square for Independence Model with 105 Degrees of Freedom = 7948.417
Independence AIC = 7978.417
Model AIC = 219.670
Saturated AIC = 240.000
Independence CAIC = 8044.592
Model CAIC = 418.194
Saturated CAIC = 769.398

Normed Fit Index (NFI) = 0.984
Non-Normed Fit Index (NNFI) = 0.990
Parsimony Normed Fit Index (PNFI) = 0.703
Comparative Fit Index (CFI) = 0.993
Incremental Fit Index (IFI) = 0.993
Relative Fit Index (RFI) = 0.977

Critical N (CN) = 183.973

Root Mean Square Residual (RMR) = 0.0498
Standardised RMR = 0.0328
Goodness of Fit Index (GFI) = 0.918
Adjusted Goodness of Fit Index (AGFI) = 0.869
Parsimony Goodness of Fit Index (PGFI) = 0.574

The unstandardised theta-delta matrix presented in Table 4.35 indicates that all indicators are statistically significantly plagued by measurement error as is evident in the fact that all

indicators report absolute t-values greater than 1.96. Perfectly reliable and valid measures of latent variables represent an unattainable ideal. Insignificant measurement error variances would therefore have raised suspicion on the measurement model's fit.

Table 4.35

Unstandardised theta-delta matrix

INT_1	INT_2	ALTR_1	ALTR_2	ETHL_1	ETHL_2	PJ	IJ
0.14	0.14	0.28	0.49	0.10	0.09	0.33	0.33
(0.03)	(0.03)	(0.06)	(0.09)	(0.02)	(0.02)	(0.050)	(0.06)
5.11	4.13	4.44	5.65	5.36	5.17	6.69	5.44

DJ	CARING	LAW	RULES	INDEP	LEFFE_1	LEFFE_2
0.97	0.47	0.61	0.45	1.93	0.41	0.41
(0.11)	(0.07)	(0.08)	(0.05)	(0.17)	(0.08)	(0.07)
9.11	7.1	7.93	9.61	11.12	5.19	6.15

Table 4.36

Completely standardised lambda matrix

	INTEGRIT	ALTRUISM	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
	---	---	---	---	---	---
INT_1	0.936	- -	- -	- -	- -	- -
INT_2	0.942	- -	- -	- -	- -	- -
ALTR_1	- -	0.913	- -	- -	- -	- -
ALTR_2	- -	0.836	- -	- -	- -	- -
ETHL_1	- -	- -	0.955	- -	- -	- -
ETHL_2	- -	- -	0.958	- -	- -	- -
PJ	- -	- -	- -	0.864	- -	- -
IJ	- -	- -	- -	0.892	- -	- -
DJ	- -	- -	- -	0.701	- -	- -
CARING	- -	- -	- -	- -	0.812	- -
LAW	- -	- -	- -	- -	0.696	- -
RULES	- -	- -	- -	- -	0.746	- -
INDEP	- -	- -	- -	- -	0.330	- -
LEFFE_1	- -	- -	- -	- -	- -	0.855
LEFFE_2	- -	- -	- -	- -	- -	0.837

According to Diamantopoulos and Siguaw (2000), a problem with relying on unstandardised loadings only and associated t-values is that it may be difficult to compare the validity of different indicators measuring a particular construct. They therefore recommend that the magnitudes of the standardised loadings are also inspected. The completely standardised factor loading matrix is presented in Table 4.36. The values shown in Table 4.36 could be interpreted as the regression slopes of the regression of the standardised indicator variables on the standardised latent variables. The completely standardised factor loadings therefore indicate the average change expressed in standard deviation units in the indicator variable

associated with one standard deviation change in the latent variable. Factor loading estimates were considered to be satisfactory if the completely standardised factor loading estimates exceeded .71 (Hair *et al.*, 2006). Satisfaction of this criterion would imply that at least 50% of the variance in the indicator variables can be explained by the latent variables they were assigned to represent. Interpreted in this sense, all loadings are greater than .71, except for the loadings of *Law on Ethical Climate, Distributive justice on organisational justice and Independence on Ethical Climate*, which could be regarded as somewhat problematic.

Determining the reliability of the indicators requires an investigation of the squared multiple correlations (R^2) of the indicators. A high R^2 value (> .50) would be indicative of high reliability of the indicator as this indicates that a satisfactory proportion of variance in each indicator variable is explained by its underlying latent variable. The results are indicated in Table 4.37. DJ, LAW and INDEP reported reliabilities lower than .50. This is problematic with regard to the fit of the model and the reliability of the indicators as it means that a significant amount of variance can be attributed to systematic and random measurement error.

Table 4.37

Squared multiple correlations for item parcels

INT_1	INT_2	ALTR_1	ALTR_2	ETHL_1	ETHL_2	PJ	IJ
0.88	0.89	0.83	0.70	0.91	0.92	0.75	0.80

DJ	CARING	LAW	RULES	INDEP	LEFFE_1	LEFFE_2
0.49	0.66	0.48	0.56	0.11	0.73	0.70

The Theta-delta matrix indicates the variance in measurement error terms, in other words, the percentage of variance in the indicator variable attributed to systematic and random measurement error, which cannot be explained in terms of the latent variable. This is presented in Table 4.38 and represents the converse of the squared multiple correlations (R^2) of the indicators presented in Table 4.37. Table 4.38 presents the evidence that DJ, LAW and INDEP are flagged as problematic indicators of their respective latent variables in that more variance is explained by measurement error than is explained by the latent variable these indicators are meant to reflect.

Table 4.38

Completely standardised theta-delta matrix

INT_1	INT_2	ALTR_1	ALTR_2	ETHL_1	ETHL_2	PJ	IJ
0.13	0.11	0.17	0.30	0.09	0.08	0.25	0.21

DJ	CARING	LAW	RULES	INDEP	LEFFE_1	LEFFE_2
0.51	0.34	0.52	0.44	0.89	0.27	0.30

According to Diamantopoulos and Siguaw (2000), the examination of the standardised residuals and the modification indices provide relevant information that can be used for modification of the model in focusing on improving model fit. At the same time, however, the standardised residuals and the modification indices calculated for LAMBDA-X and THETA-DELTA comment on the quality of the measurement model. If a limited number of ways exist in which model fit can be improved, this comments favourably on the fit of the model.

4.7.2 Examination of measurement model residuals

Standardised residuals are z-scores. Standardised residuals can be interpreted as large if they exceed +2.58 or –2.58 (Diamantopoulos & Siguaw, 2000). A large positive residual indicates that the model underestimates the covariance between two variables, while a large negative residual indicates that the model overestimates the covariance between variables. If the model generally underestimates covariance terms it indicates that additional explanatory paths should be added to the model, which could better account for the covariance between the variables. If, however, the model tends to overestimate the covariance between indicator variables, paths that are associated with the particular covariance terms should be deleted from the model (Jöreskog & Sörbom, 1993). A summary of the standardised residuals is presented in Table 4.39.

Table 4.39

Summary statistics for standardised residuals

Smallest Standardised Residual = -4.07
Median Standardised Residual = 0.000
Largest Standardised Residual = 2.81

Largest Negative Standardised Residuals
Residual for INDEP and RULES = -4.067
Residual for LEFFE_1 and ALTR_1= -3.538

Largest Positive Standardised Residuals
Residual for RULES and LAW = 2.594
Residual for INDEP and CARING = 2.805
Residual for LEFFE_1 and PJ = 2.581

Table 4.39 indicates three standardised residuals larger than 2.58 and two standardised residuals smaller than - 2.58. This indicates that there is a slightly more pronounced tendency for the model to underestimate the observed covariance terms than to overestimate. The fact that only five extreme residuals were reported is again indicative of good model fit. This implies that only 4% (5/120) of all the variance-covariance estimates that were derived from the measurement model parameters can be considered poor estimates.

4.7.3 Measurement model modification indices

Examining the modification indices for the currently fixed parameters of the model may also provide an additional way of determining whether adding one or more paths would significantly improve the fit of the model. The aim of examining the modification indices is to estimate the decrease that would occur in the χ^2 statistic if parameters that are currently fixed are set free and the model is re-estimated. Modification indices with values larger than 6.64 (Theron, 2012) identify currently fixed parameters that would improve the fit of the model significantly ($p < .01$) if set free (Diamantopoulos & Siguaw, 2000). Diamantopoulos and Siguaw (2000) suggest that modifications to the model based on these statistics should be theoretically/substantially justified. Modification indices calculated for the LAMBDA-X and THETA-DELTA only matrices were examined. Examination of the modification index values calculated for the LAMBDA-X matrix as shown in Table 4.40 indicated that only one additional path would significantly improve the fit of the model.

Table 4.40

Modification indices for LAMBDA-X matrix

Modification Indices for LAMBDA-X

	INTEGRIT	ALTRUISM	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
INT_1	- -	2.073	- -	1.294	1.053	0.320
INT_2	- -	1.782	- -	- -	1.177	0.177
ALTR_1	0.003	- -	0.094	0.039	2.131	0.080
ALTR_2	0.002	- -	0.087	0.023	1.626	0.081
ETHL_1	- -	0.180	- -	0.048	0.951	5.267
ETHL_2	0.105	0.157	- -	- -	2.412	5.590
PJ	0.234	2.248	0.008	- -	0.911	0.458
IJ	0.314	1.907	0.076	- -	0.814	0.360
DJ	0.117	0.064	0.553	- -	0.319	0.044
CARING	3.079	0.278	0.712	0.095	- -	0.091
LAW	3.428	0.807	0.529	0.011	- -	0.027
RULES	0.002	1.386	0.010	0.266	- -	0.010
INDEP	0.701	0.096	0.273	6.872	- -	0.937
LEFFE_1	0.232	5.076	0.036	0.284	0.571	- -
LEFFE_2	0.085	2.614	0.015	0.111	0.310	- -

Independence subscale appears to load on *organisational justice*. An examination of the corresponding completely standardised expected change values does not support freeing the additional parameter of *independence* loading onto *organisational justice.* The important point here is the fact that only 1 out of a possible 70 ways of modifying the factor loading pattern (1.4%) will result in a significant improvement in model fit. This small percentage comments very favourably on the fit of the model.

Examination of the THETA-DELTA matrix in Table 4.41 reveals seven covariance terms that, if set free, would result in significant decreases in the χ^2 measure. However, the values of the completely standardised expected changes do not warrant setting these parameters free. There is also no persuasive theoretical argument to justify correlated measurement error terms. Again, the small percentage (7/105 = 7%) of covariance terms identified to significantly improve model fit if set free, is a positive comment on the merits of the measurement model.

Table 4.41

Modification indices for theta matrix

	INT_1	INT_2	ALTR_1	ALTR_2	ETHL_1	ETHL_2	PJ	IJ	DJ	CARING	LAW	RULES	INDEP	LEFFE_1	LEFFE_2
INT_1	- -														
INT_2	- -	- -													
ALTR_1	4.05	2.80	- -												
ALTR_2	12.60	9.72	- -	- -											
ETHL_1	3.19	4.55	0.09	0.00	- -										
ETHL_2	1.97	3.38	0.51	0.20	- -	- -									
PJ	0.12	1.27	0.46	1.87	1.73	0.15	- -								
IJ	0.33	0.02	1.06	0.52	0.42	0.11	- -	- -							
DJ	0.00	0.00	1.12	1.20	0.15	0.27	0.03	0.12	- -						
CARING	0.60	0.74	1.49	1.36	0.11	0.00	0.04	0.15	7.42	- -					
LAW	0.01	6.40	0.95	0.91	0.18	0.07	1.18	3.30	3.33	6.67	- -				
RULES	2.29	1.46	0.01	5.42	0.01	0.27	0.98	0.02	1.48	0.16	12.07	- -			
INDEP	0.16	1.65	0.61	0.94	2.61	4.72	2.40	0.37	1.22	13.32	2.64	13.89	- -		
LEFFE1	0.11	0.54	1.32	0.98	0.18	1.19	3.75	11.81	0.59	12.40	2.46	0.94	0.16	- -	
LEFFE2	0.00	0.20	2.87	0.18	2.56	0.00	0.77	4.93	0.09	4.87	0.265	0.65	2.19	- -	- -

The limited number of large positive standardised residuals in conjunction with the limited number of large modification index values comments very favourably on the fit of the measurement model.

4.7.4 Interpretation of the overall measurement model

Through the examination of the magnitude and the significance of the slope of the regression of the observed variables on their respective latent variables, an indication of the validity of the measure is obtained (Diamantopoulos & Siguaw, 2000). Table 4.42 contains the unstandardised regression coefficients of the regression of the manifest variables on the latent variables they were linked to. The unstandardised LAMBDA-X matrix shown in Table 4.42 indicates the average change expressed in the original scale units in the manifest variable associated with one unit change in the latent variable. Significant indicator loadings confirm the validity of the item indicator variables. In this case, all factor loadings are significant ($p < .05$) since the absolute value of the t-values exceed 1.96 (Diamantopoulos & Siguaw, 2000).

Table 4.42

Unstandardised lambda matrix

	INTEGRIT	ALTRUISM	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
INT_1	0.991 (0.051) 19.308	- -	- -	- -	- -	- -
INT_2	1.053 (0.054) 19.386	- -	- -	- -	- -	- -
ALTR_1	- -	1.186 (0.062) 19.280	- -	- -	- -	- -
ALTR_2	- -	1.072 (0.069) 15.577	- -	- -	- -	- -
ETHL_1	- -	- -	1.020 (0.051) 20.102	- -	- -	- -
ETHL_2	- -	- -	1.012 (0.049) 20.591	- -	- -	- -
PJ	- -	- -	- -	0.989 (0.062) 15.898	- -	- -
IJ	- -	- -	- -	1.129 (0.063) 18.061	- -	- -
DJ	- -	- -	- -	0.971 (0.084) 11.601	- -	- -
CARING	- -	- -	- -	- -	0.957 (0.068) 13.981	- -
LAW	- -	- -	- -	- -	0.756 (0.065) 11.585	- -
RULE	- -	- -	- -	- -	0.755 (0.058) 13.094	- -
INDEP	- -	- -	- -	- -	0.486 (0.109) 4.467	- -
LEFFE_1	- -	- -	- -	- -	- -	1.057 (0.067) 15.839
LEFFE_2	- -	- -	- -	- -	- -	0.979 (0.060) 16.327

Table 4.43

The measurement model phi matrix

	INTEGRIT	ALTRUISM	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
INTEGRIT	1.00					
ALTRUISM	0.77 (0.04) 17.45	1.00				
ETHLEAD	0.90 (0.02) 42.81	0.83 (0.03) 25.51	1.00			
OJUSTICE	0.87 (0.03) 26.13	0.79 (0.05) 15.48	0.91 (0.02) 40.50	1.00		
CLIMATE	0.76 (0.05) 16.38	0.66 (0.06) 11.35	0.78 (0.04) 17.66	0.86 (0.04) 20.82	1.00	
LEFFECT	0.82 (0.04) 21.53	0.75 (0.05) 15.28	0.85 (0.04) 24.14	0.84 (0.04) 23.17	0.83 (0.05) 17.58	1.00

All the inter-latent variables are statistically significant ($p < .05$). Correlations are considered excessively high in this study if they exceed a value of .90. Judged by this criterion, only one of the correlations in the phi matrix was excessively high. This, taken in conjunction with the reasonably high correlations (all, but one were higher than .75) between latent variables eroded confidence in the discriminant validity of the operationalised measures.

4.8 SUMMARY OF THE MEASUREMENT MODEL FIT AND PARAMETER ESTIMATES

The results of the overall fit assessment indicated reasonable to good model fit. The null hypothesis of exact model fit was rejected; however, the null hypothesis of close model fit was not rejected. The interpretation of the measurement model, the standardised residuals, and the modification indices all indicate good model fit. The results seem to substantiate the claim that the specific indicator variables reflect the specific latent variables they were meant to reflect. It was concluded that there is sufficient merit to the measurement model to infer that the operationalisation of the latent variables in the structural model was successful and that further analysis of the structural model could be undertaken so as to investigate the relationships between the latent variables.

4.9 EVALUATING THE FIT OF THE STRUCTURAL MODEL

As the measurement model showed good fit and the indicator variables generally reflected their designated latent variables well, the structural relationships between latent variables hypothesised by the proposed model depicted in Figure 4.2 were tested via SEM. LISREL 8.8 was used to evaluate the fit of the comprehensive ethical climate model.

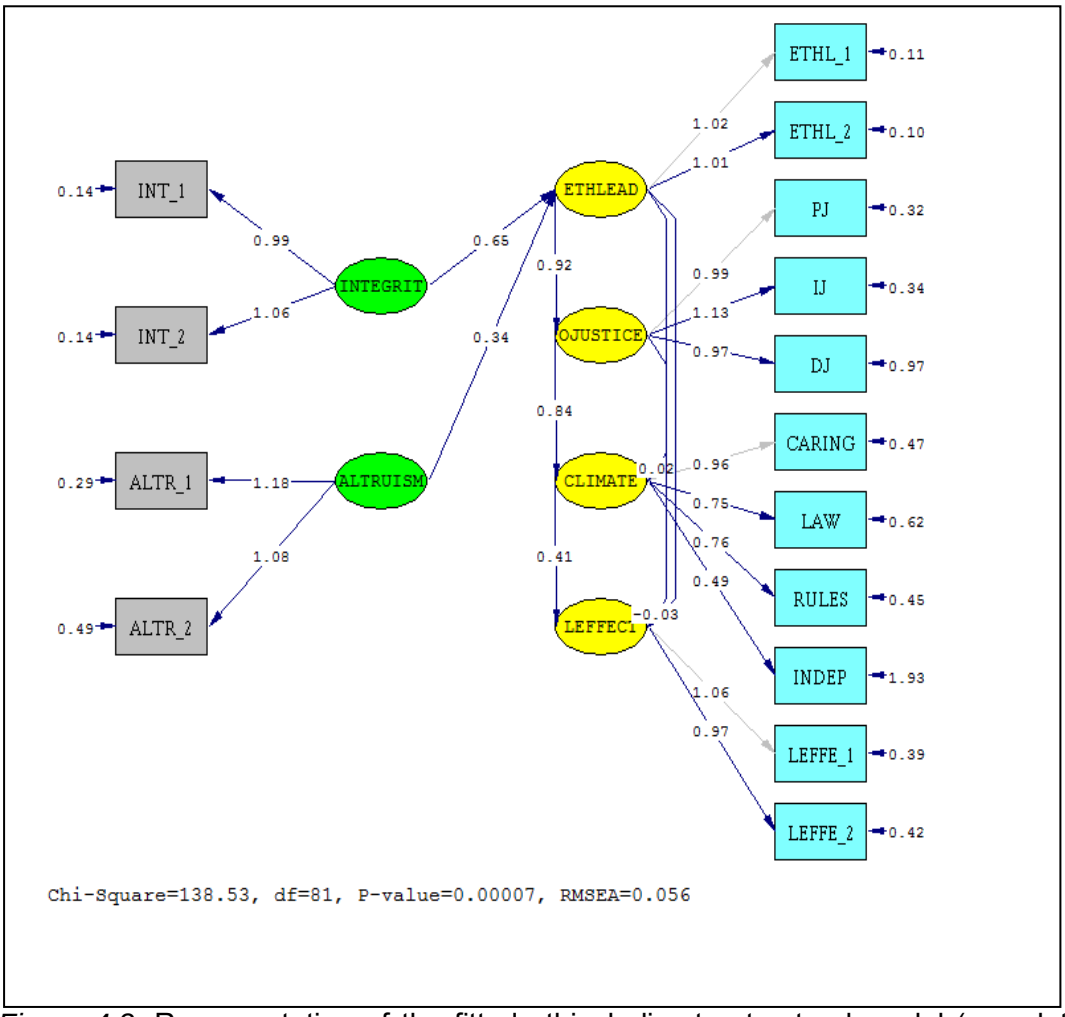

Figure 4.2. Representation of the fitted ethical climate structural model (completely standardised solution)

4.9.1 Assessing the overall goodness-of-fit of the structural model

The overall structural model can be seen as a 'combination of the structural equation systems among latent variables η's and ξ's and measurement models for observed γ's and x's where all variables, observed and latent are assumed measured in deviations from their means' (Jöreskog & Sörbom, 1996). The full spectrum of the fit statistics of the structural model is shown in Table 4.44.

Table 4.44

Fit statistics for the ethical climate structural model

Degrees of Freedom = 81
Minimum Fit Function Chi-Square = 163.242 (P = 0.000)
Normal Theory Weighted Least Squares Chi-Square = 158.782 (P = 0.000)
Satorra-Bentler Scaled Chi-Square = 138.527 (P = 0.000)
Chi-Square Corrected for Non-Normality = 245.982 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 57.527
90 Percent Confidence Interval for NCP = (28.829 ; 94.098)

Minimum Fit Function Value = 0.732
Population Discrepancy Function Value (F0) = 0.258
90 Percent Confidence Interval for F0 = (0.129 ; 0.422)
Root Mean Square Error of Approximation (RMSEA) = 0.0564
90 Percent Confidence Interval for RMSEA = (0.0399 ; 0.0722)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.244

Expected Cross-Validation Index (ECVI) = 0.971
90 Percent Confidence Interval for ECVI = (0.842 ; 1.135)
ECVI for Saturated Model = 1.076
ECVI for Independence Model = 35.778

Chi-Square for Independence Model with 105 Degrees of Freedom = 7948.417
Independence AIC = 7978.417
Model AIC = 216.527
Saturated AIC = 240.000
Independence CAIC = 8044.592
Model CAIC = 388.581
Saturated CAIC = 769.398

Normed Fit Index (NFI) = 0.983
Non-Normed Fit Index (NNFI) = 0.990
Parsimony Normed Fit Index (PNFI) = 0.758
Comparative Fit Index (CFI) = 0.993
Incremental Fit Index (IFI) = 0.993
Relative Fit Index (RFI) = 0.977

Critical N (CN) = 183.738

Root Mean Square Residual (RMR) = 0.0520
Standardised RMR = 0.0351
Goodness of Fit Index (GFI) = 0.913
Adjusted Goodness of Fit Index (AGFI) = 0.872
Parsimony Goodness of Fit Index (PGFI) = 0.616

Table 4.44 indicates that this model achieved a Satorra-Bentler Scaled Chi-Square value of 138.527 with 81 degrees of freedom. The evaluation of the fit on the basis of the normed chi-square statistics χ^2/df (138.527/81 =1.71) for the structural model suggests that the model does not fit the data well (falls outside of the 2 to 5 range). The p-value associated with the χ^2 = 138.53 (P = 0.0) clearly indicated a significant test statistic ($p < .05$). The null hypothesis of exact fit was consequently rejected. This suggests that there is a significant discrepancy between the covariance matrix implied by the structural model and the observed covariance matrix to a degree of accuracy in the sample that can be explained by sampling error only.

The overarching substantive hypothesis as depicted by the structural model, thus reveals that the manner in which the structural relations produce variance, provides an approximate account of the variance as exhibited in the leader's effectiveness.

The *Root Mean Square Error of Approximation (RMSEA)* of the model (.056) has revealed reasonably good fit and that the model fits the data well. LISREL also explicitly tested the null hypothesis of close fit. The *p-value for test of close fit* indicated that the close fit null hypothesis (RMSEA ≤ .05) could not be rejected. It was therefore concluded that the structural model showed close fit.

The Root Mean Square Residual (RMR) of the structural model is reported to be .052. According to Kelloway (1998), low values are an indication of good fit. This scale is sensitive to the scale of measurement of the model variables, however, and it is therefore difficult to determine what qualifies as a low value. Kelloway further states that LISREL provides the standardised RMR which is a better index and indicates that values lower than .05 represents good fit. The standardised RMR value of this structural model is .035, which reached the cut-off value and therefore indicates good fit.

The goodness-of-fit index ranges from 0 to 1 and "is based on the ratio of the sum of the squared discrepancies to the observed variance" (Kelloway, 1998, p. 27). Values above .90 indicate good fit of the model. The adjusted goodness-of-fit index (AGFI) is an adjustment of the GFI for the degrees of freedom. Values above .90 also indicate good fit. The GFI (.913) exceeded the .90 cut-off value and AGFI (.872) nearly reached this value. According to these indices, the structural model achieved good fit.

Comparative fit is an incremental fit index that "measures the relevant improvement in the fit of the researcher's model over that of a baseline model, typically the independence model" (Kline, 2011, p. 208). The incremental fit indices, namely the NFI (.983), NNFI (.990), CFI (.993), IFI (.993) and RFI (.977) were all above .90, which indicated good comparative fit relative to the independence model.

The examination of the goodness-of-fit indices resulted in the conclusion that the comprehensive structural model fits the data reasonably well. The null hypothesis of exact fit was rejected ($p < 0.05$), which indicated that the model does not fit exactly. However, the structural model showed close fit and therefore displayed reasonably good fit.

4.9.2 Relationships between latent variables

According to the results of the fit indices, it is concluded that the structural model fitted the data well. At this stage it was necessary to test the relationships between the endogenous

and exogenous latent variables in order to assess whether the linkages specified at the theorising and conceptualisation phase were, in fact, supported by the data (Diamantopoulos & Siguaw, 2000). In order to assess these relationships, three relevant issues needed to be looked at. The first issue was to examine the signs of the parameters representing the paths between the latent variables to determine whether the direction of the hypothesised relationships was as theoretically determined. Secondly, it was essential to investigate the magnitudes of the estimated parameters because this would provide important information regarding the strength of these relationships. Lastly, the squared multiple correlations (R^2) would indicate the amount of variance in the endogenous variables that is explained by the latent variables that are linked to it (Diamantopoulos & Siguaw, 2000).

The parameters to be assessed were the freed elements of the gamma **(Γ)** and beta **(B)** matrices. The unstandardised gamma matrix was used to evaluate the statistical significance of the estimated path coefficients γ_{ij} which express the influence of ξ_j on η_i. These unstandardised γ_{ij} estimates are significant if $t > |1.96|$ (Diamantopoulos & Siguaw, 2000). A significant γ estimate would entail that the related H_0 hypothesis would be rejected in favour of the relevant H_a hypothesis.

Table 4.45

Unstandardised GAMMA (Γ) Matrix

	INTEGRIT	ALTRUISM
	---	---
ETHLEAD	0.65	0.35
	(0.08)	(0.07)
	8.34	4.57
OJUSTICE	- -	- -
CLIMATE	- -	- -
LEFFECT	- -	- -

Table 4.45 indicates the unstandardised gamma matrix. Integrity and altruism are the only exogenous latent variables and the hypotheses which are relevant to the **Γ** matrix are therefore hypotheses 9 and 10. The top value represents the unstandardised gamma coefficients as an estimate of the slope of the regression of η_j on ξ_i. The second value is the standard error and the bottom value the test statistic t. The null hypothesis 9 (H_{09}: $\gamma_{11} = 0$) could be rejected in favour of alternative hypothesis 9 (H_{a9}: $\gamma_{11} > 0$). Table 4.50 further indicates that the t (4.57) value of the link between altruism and ethical leadership > 1.96. A significant ($p < 0.05$) relationship is therefore evident between altruism (ξ_2) and ethical leadership (η_1). H_{010}: $\gamma_{12} = 0$ can be rejected in favour of H_{a10}: $\gamma_{12} > 0$, which suggests that the proposed relationship between these two latent variables was supported.

It was also imperative to investigate the unstandardised beta **(B)** matrix which describes the relationships between the endogenous variables and reflects the slope of the regression of η_i on η_j. The results presented in Table 4.46 can be used to assess the hypothesised relationships between the endogenous variables in the structural model. According to Diamantopoulos and Siguaw (2000), unstandardised beta estimates are also significant ($p < 0.05$) if $t > |1.96|$. A significant beta estimate would entail that the related H_0-hypothesis would be rejected in favour of the relevant H_a-hypothesis.

Table 4.46

Unstandardised BETA (B) Matrix

	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
	---	---	---	---
ETHLEAD	- -	- -	- -	- -
OJUSTICE	0.92	- -	- -	- -
	(0.04)			
	20.80			
CLIMATE	0.02	0.84	- -	- -
	(0.21)	(0.23)		
	0.09	3.69		
LEFFECT	0.57	-0.03	0.41	- -
	(0.17)	(0.24)	(0.17)	
	3.43	-0.12	2.36	

The hypotheses relevant to Table 4.46 are Hypotheses 3, 4, 5, 6, 7 and 8. Null Hypothesis 3 (H_{03}: $\beta_{43} = 0$), could be rejected in favour of alternative hypothesis 3 (H_{a3}: $\beta_{43} > 0$). The null hypothesis was rejected because of the t-value (2.36) that fell above 1.96. The β_{43} path thus was significant.

Furthermore, the null hypothesis 4 (H_{04}: $\beta_{42} = 0$), could not be rejected in favour of the alternative hypothesis 4 ($H_{a4:}$ $\beta_{42} > 0$). The null hypothesis was not rejected because the t-value (-.12) fell below 1.96. The β_{42} path thus was not significant.

The values in the matrix furthermore explicated a significant ($p < .05$) relationship between ethical leadership (η_1) and leader effectiveness (η_4) as the t-value (3.43) fell above the 1.96 value. The null hypothesis 5 (H_{05}: $\beta_{41} = 0$) could be rejected in favour of the alternative hypothesis 5 (H_{a5}: $\beta_{41} > 0$). The null Hypothesis 6 of the significantly positive relationship between organisational justice (η_2) and ethical climate (η_3) (H_{06}: $\beta_{32} = 0$) could be rejected in favour of the alternative hypothesis 6 (H_{a6}: $\beta_{32} > 0$). The null hypothesis was not rejected because the t-value (3.96) fell above 1.96. The β_{32} path thus was significant.

Furthermore the null hypothesis 7 (H_{07}: $\beta_{31} = 0$), could not be rejected in favour of the alternative hypothesis 7 (H_{a7}: $\beta_{31} > 0$). The null hypothesis was not rejected since the t-value (.09) falls below 1.96. The β_{31} path thus was not significant.

Finally, it is also concluded from the Beta matrix the null Hypothesis 8 (H_{08}: $\beta_{21} = 0$) could be rejected in favour of alternative Hypothesis 8 (H_{a8}: $\beta_{21} > 0$) as the t-value (20.8) fell above 1.96. The β_{21} path thus was significant.

4.9.3 Structural model modification indices

The modification indices were also investigated in order to determine the extent to which the structural model is successful in explaining the observed covariance's amongst the apparent variables and to explore possible way of meaningfully improving model fit. According to Jöreskog and Sörbom (1993), a modification index (MI) indicates the minimum decrease in the model's chi-square value, if a previously fixed parameter is set free and the model is re-estimated. This means that a modification index for a particular fixed parameter indicates that, if this parameter were allowed to be freed in a subsequent model, the chi-square goodness-of-fit value would be predicted to decrease by at least the value of the index. Large modification index values (>6.64) would be indicative of parameters that, if set free, would significantly improve the fit of the model ($p < 0.01$). However, one should take note of the fact that any alteration to the model, as suggested by parameters with high MI values, should only be freed if it makes theoretical sense to do so (Kelloway, 1998).

The expected change for the parameter is the expected value of the parameter if it were freed (i.e., the extent to which it would change from its currently fixed value of zero). The standardised expected changes are the expected values in the standardised solution if the parameters were freed. In light of this, the proposed structural model appears to fit the data reasonably well. Examination of the modification indices calculated for the Beta matrix, as depicted in Table 4.47, suggests that there are two additional paths between endogenous latent variables that would significantly improve the fit of the proposed structural model. The additional paths are between organisational justice and ethical leadership, with organisational justice having a positive influence on ethical climate and between ethical climate and ethical leadership, where ethical climate has a positive influence on ethical leadership.

Table 4.47

Modification and Standardised expected change calculated for the Beta matrix

Modification Indices for BETA

	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
ETHLEAD	- -	9.94	7.75	6.05
OJUSTICE	- -	- -	- -	- -
CLIMATE	- -	- -	- -	- -
LEFFECT	- -	- -	- -	- -

Standardised Expected Change for BETA

	ETHLEAD	OJUSTICE	CLIMATE	LEFFECT
ETHLEAD	- -	-0.45	-0.26	-0.23
OJUSTICE	- -	- -	- -	- -
CLIMATE	- -	- -	- -	- -
LEFFECT	- -	- -	- -	- -

Examination of the modification indices calculated for the Gamma matrix, as depicted in Table 4.48, suggests that there is one additional path between the exogenous and any endogenous latent variables that would significantly improve the fit of the proposed structural model. The additional path is suggested between integrity and ethical climate where integrity will have a positive influence on the ethical climate of an organisation.

Table 4.48

Modification and Standardised expected change calculated for the Gamma matrix

Modification Indices for GAMMA

	INTEGRIT	ALTRUISM
ETHLEAD	- -	- -
OJUSTICE	2.775	0.474
CLIMATE	9.938	0.060
LEFFECT	1.842	1.556

Standardised Expected Change for GAMMA

	INTEGRIT	ALTRUISM
ETHLEAD	- -	- -
OJUSTICE	0.131	0.046
CLIMATE	1.159	-0.036
LEFFECT	0.228	0.141

4.10 SUMMARY

The purpose of this chapter was to report on the results obtained from this study. The chapter commenced with an investigation and refinement of the measuring scales that were developed. This was followed by examining the data, and correcting where possible. The statistical outcome of the hypothesised relationships was also determined. The following chapter discusses the general conclusions drawn from the results in greater depth.

CHAPTER 5

DISCUSSION OF RESULTS, CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

5.1 INTRODUCTION

In this final chapter, the main findings of the study are discussed. The main goal of the study is reviewed briefly, after which the research results as presented in Chapter 4 are discussed and interpreted. The chapter concludes with a discussion of the limitations of the study and suggestions for future research and, lastly, the practical implications for the human resource profession.

5.2 GOAL OF THE STUDY

The goal of the study was to examine the effect of core ethical values on ethical leadership, organisational justice, ethical climate and leader effectiveness. The importance of leader effectiveness is accentuated in the literature. Emphasis is specifically placed on the benefits of ethical employee conduct to organisational success (Sadeghi & Pihie, 2012; Yukl, 2013). The extent to which an organisation's leaders assume responsibility in establishing an environment that is seen as ethical is said to affect the perceived effectiveness of the leaders (Mayer *et al.,* 2010). As such, this study firstly investigated the pronounced effect that perceived ethical organisational climate has on the perceived effectiveness of leaders.

Organisational justice is concerned with the perceived just and ethical treatment of employees in organisations (Fernandes & Awamleh, 2006). As the concept of organisational justice has been seen to have an effect on employees' perception of their leader's effectiveness (Van Knippenberg *et al.,* 2007), the relationship between organisational justice and leader effectiveness was analysed.

The employee's perception of ethical leadership has furthermore been identified as a fundamental element of the leader's perceived effectiveness (Brown *et al.,* 2005; De Hoogh & Den Hartog, 2008).

An organisation's ethical climate has a positive influence on the performance of the organisation (Carlson & Perrewe, 1995). The relationship between leaders and followers as well as organisational justice, are seen as key aspects that could contribute to an organisation's ethical culture and ultimately to ethical employee conduct (Fein, 2013). It has furthermore been noted that ethical leaders have been responsible for instilling an

environment which is seen as ethical (Stouten *et al*., 2012). A relationship was hypothesised between ethical leadership and an organisation's ethical climate.

According to Northouse (2001), ethical leaders are concerned with issues of fairness and justice and, hence, are responsible for the fair treatment of their employees. A relationship therefore also exists between ethical leadership and organisational justice. In addition, ethical leadership, integrity and altruism are considered as intertwined concepts and hence are essential concepts that determine whether employees perceive their leaders as ethical (Bass & Steidlmeier, 1999; Craig & Gustafson, 1998; Engelbrecht *et al*., 2005).

To empirically evaluate the postulated relationships, eight path-specific substantive hypotheses were inferred from the literature study as presented in Chapter 2. The results of these hypotheses are discussed in terms of the findings obtained through the data analysis procedure discussed in Chapter 4.

5.3 SUMMARY OF THE FINDINGS

The study aimed to answer the research question, 'Why does variance exist in leader effectiveness; with specific reference to the role that ethical climate, organisational justice, ethical leadership and core ethical values play in this regard, not to the exclusion of other factors in the organisation?'. Following the discussion of the results in Chapter 4, the subsequent sections provide general conclusions regarding the reliability analyses, confirmatory factor analyses and the evaluations of both the measurement model and the structural model fit.

5.3.1 Reliability analysis

The reliability coefficients of all the scales were determined to confirm whether the instrument was consistent with regard to measures of the specific scales in question. According to Nunnally (1978), only instruments with modest reliability can be used to gather information to test hypotheses. A Cronbach's alpha greater than .70 was considered acceptable, and reliability values below .70 were regarded as not satisfactory (Kerlinger & Lee, 2000; Pallant, 2007). Item-total correlations of above .30 were also considered as indicators of internal consistency (Pallant, 2007).

Taking the abovementioned guidelines into consideration, the item analyses of the various scales produced satisfactory results. The summary of the final reliability results for each measurement scale can be seen in Table 5.1, below. All scales attained reliability scores that exceeded the recommended value of .70. The results furthermore indicated that all items presented an item-total correlation above the recommended cut-off value (.30).

Consequently, the measurement scales did not raise any concerns and no items were deleted. All measurement scales could hence be considered reliable instruments for gathering information to test the hypotheses.

Table 5.1

Reliability results for the measurement scales

Scale	Cronbach's alpha	Number of items
Leader Effectiveness Questionnaire	0.843	5
Ethical Climate Questionnaire: Caring	0.848	7
Ethical Climate Questionnaire: Law	0.792	4
Ethical Climate Questionnaire Rules	0.709	4
Ethical Climate Questionnaire: Independence	0.840	4
Total Ethical Climate Questionnaire	0.892	19
Organisational Justice Scale: Procedural Justice	0.861	7
Organisational Justice Scale: Interactional Justice	0.947	10
Organisational Justice Scale: Distributional Justice	0.872	5
Total Organisational Justice Scale	0.954	22
Leadership of Ethics Scale (LES)	0.949	17
Behavioural Integrity Survey - Revised (BIS-R)	0.954	20
Altruism Scale	0.884	5

5.3.2 Evaluation of the measurement models

To determine to what extent the indicator variables successfully operationalise the latent variables, the measurement model fit of all six measurement models was analysed. The overall goodness-of-fit of the measurement models was tested through structural equation modelling (SEM). Measurement model fit refers to the extent to which a measurement model fits (is consistent with or describes) the data and provides information about the validity and reliability of the observed indicators (Diamantopoulos & Siguaw, 2000). A decision was made to analyse the measurement model fit separately for each of the various measuring

instruments through Confirmatory Factor Analysis (CFA). The initial results of the Confirmatory Factor Analysis (CFA) were evaluated per scale in terms of the p-value Test of Close Fit, where p > .05 indicates good model fit; and the Root Mean Square Error of Approximation, where RMSEA < .08 indicates reasonably good model fit and RMSEA < 0.05 indicates a good fit of the data (Diamantopoulos & Siguaw, 2000). If the original structure, produced a poor fit with the data (in terms of the p-value Test of Close Fit < 0.05), and certain items displayed insignificant completely standardised factor loadings (< .30), poor items were removed and a further CFA was performed on the data. However, if poor fit was still found, the modification indices of THETA-DELTA were evaluated. Model modification strives to indicate whether any of the currently fixed parameters, if set free, would significantly improve the parsimonious fit of the model. The modification indices (MI) therefore point out the extent to which the chi-square fit statistic decreases when a currently fixed parameter in the model is freed and the model re-estimated (Jöreskog & Sörbom, 1993). Where large modification indices (> 6.64 at a significance level of 0.01) were found, items were deleted in order to improve the fit of the model significantly (p < 0.01). Further CFAs were then performed on the refined scale and sub-scale items until all items demonstrated satisfactory factor loadings and the measurement model indicated good fit. The following section presents a summary of the goodness-of-fit indices obtained from the Confirmatory Factor Analyses performed on each of the measurement models obtained from the data of the total sample (n = 224). Various indices were interpreted to assess the goodness-of-fit of the measurement model and in general it was found that the measurement models fit the data well.

5.3.2.1 Incremental and absolute fit measures of the Leader Effectiveness Questionnaire

The incremental fit indices of the Leader Effectiveness Questionnaire (LEQ) exceeded the critical value of 0.90. The model therefore indicated good comparative fit. The null hypothesis of exact fit (H_0: $\Sigma = \Sigma(\theta)$), as well as the null hypothesis of close fit (H0: RMSEA ≤ 0.05), was not rejected. The measurement model for leader effectiveness thus showed both close and exact fit. This indicates that the measurement model fits the data well, in that the model reproduced the observed sample covariance matrix and provided a credible explanation of the observed covariance matrices.

In terms of the absolute fit indices of the Leader Effectiveness Questionnaire (LEQ) as reported in Table 4.16, the X^2/df ratio marginally failed to reach the required 2 to 5 range indicative of acceptable fit (1.84). It was however found that an acceptable model fit had been achieved (RMSEA = .06). In terms of the p-value Test of Close Fit (RMSEA < 0.05),

the LEQ obtained a value indicative of good fit (0.32). The RMR value of 0.07 did not reach the cut-off value of .05, but the Standardised RMR value of 0.04 was below 0.05, which indicated good fit. The GFI exceeded 0.9 and thus reached a satisfactory value close to 1, which indicated that the model showed good absolute fit.

5.3.2.2 Incremental and absolute fit measures of the Ethical Climate Questionnaire

The following conclusions were drawn with regards to the Ethical Climate Questionnaire (ECQ). The original model failed to achieve close fit (H_{02} p< .05). Based on large modification indices found in the off-diagonal of the Θ_{ξ}, two items from the Caring subscale and one item from the Rules subscale were deleted. A comparison of the indices reported in Table 4.19 indicated that the refined structure of each subscale (Caring, Law, Rules and Independence) of the ECQ presented good fit with the data. The null hypothesis of close fit was not rejected, indicating that the measurement model of the ECQ fits the data well and can reproduce the observed sample covariance matrix. However, in the refined ECQ measurement model, the X^2/df ratio (1.447) failed to come close to the 2 to 5 range indicative of acceptable fit. Although somewhat disappointing, the model still managed to achieve good fit in terms of the p-value Test of Close Fit (.693) and the RMSEA (.045). The RMR and the standardised RMR values were not below the .05 threshold and indicated relatively poor model fit. The Goodness of Fit Index (GFI) value for the measurement model was close to .90. The incremental fit indices exceeded the critical value of .90, excepting the AGFI, which only reached the value of .857. This, however, was still satisfactory and therefore the model indicated good comparative fit.

5.3.2.3 Incremental and absolute fit measures of the Organisational Justice Scale

All of the incremental fit indices exceeded the critical value of 0.90, except for AGFI, which obtained a value above .80 that is still satisfactory. The model therefore indicated good comparative fit. The OJS was able to reject the null hypothesis of exact fit (H_0: $\Sigma = \Sigma(\theta)$) and, at the same time, not reject the null hypothesis of close fit (H0: RMSEA ≤ 0.05). This indicates that the measurement model fits the data well, in that the model reproduced the observed sample covariance matrix and provided a credible explanation of the observed covariance matrices.

The absolute fit indices of the Organisational Justice Scale (OJS) were reported in Table 4.21. The X^2/df ratio marginally failed to reach the required 2 to 5 range indicative of acceptable fit (1.44). The initial inspection of the fit statistics shown in Table 4.21 indicated that this model achieved good model fit (RMSEA = .045). The p-value Test of Close Fit (RMSEA < 0.05) of the OJS obtained a value indicative of good fit (.783). The RMR value of

0.118 did not reach the cut-off value of .05, but the Standardised RMR value of 0.046 was below 0.05, which indicated good fit.

5.3.2.4 Incremental and absolute fit measures of the Leadership of Ethics Scale

The goodness-of-fit indices for the Leadership of Ethics Scale (LES), as reported in Table 4.23, indicated that satisfactory fit had been achieved in terms of the p-value Test of Close Fit (0.699) and the RMSEA (0.045). The null hypothesis of exact fit was rejected (H_0: $\Sigma = \Sigma(\theta)$), while the null hypothesis of close fit was not rejected (H0: RMSEA ≤ 0.05). Unfortunately, the X^2/df ratio (1.454) for the LES failed to reach the 2 to 5 range. Another concern was that the GFI failed to exceed the 0.90 level required to indicate good fit. The RMR did not reach the cut-off value of .05 but the Standardised RMR value did fall of below 0.05, which indicates good fit. In terms of the incremental fit measures, the measurement model obtained NFI, NNFI, CFI, IFI and RFI indices of above 0.90, which represents good fit.

5.3.2.5 Incremental and absolute fit measures of the Revised Behavioural Integrity Scale

Large modification indices found in the off-diagonal of the Θ_ξ, led to a decision to delete two items from the Revised Behavioural Integrity Scale (BIS-R). The refined BIS-R presented satisfactory results in terms of the goodness-of-fit indices (Table 4.26). The BIS-R was able to reject the null hypothesis of exact fit (H_0: $\Sigma = \Sigma(\theta)$) and not reject the null hypothesis of close fit (H0: RMSEA ≤ 0.05). In terms of the p-value Test of Close Fit (RMSEA < 0.05), the BIS-R obtained a value indicative of reasonable fit (0.084). The measurement model also obtained good fit in light of the RMSEA index (0.06). The X^2/df ratio, however, marginally failed to reach the required 2 to 5 range indicative of acceptable fit (1.806). All the other absolute goodness-of-fit indices indicated that the BIS-R obtained reasonable fit. The measurement model also achieved NFI, NNFI, CFI, IFI and RFI indices above 0.90, which represents good fit.

5.3.2.6 Incremental and absolute fit measures of the Altruism Scale

The null hypothesis of exact fit was not rejected (H_0: $\Sigma = \Sigma(\theta)$), while the null hypothesis of close fit was not rejected (H0: RMSEA ≤ 0.05) either. Satisfactory fit had been achieved in terms of the p-value test of close fit (.412) and the RMSEA (.051) for the Altruism scale (AS) as reported in Table 4.28. Unfortunately, the X^2/df ratio (1.59) for the AS failed to reach the 2 to 5 range. The GFI, however, exceeded the .90 level required, which indicated good fit. The RMR did not reach the cut-off value of .05, but the Standardised RMR value did fall below .05, which indicates good fit. In terms of the incremental fit measures, the measurement

model obtained NFI, NNFI, CFI, IFI, RFI and AGFI indices of above 0.90, which represents good fit.

5.3.3 Evaluation of the structural model

Since the construct validity and internal reliability of all the measuring instruments had been established, the obtained data were analysed further in terms of the absolute and incremental fit of the structural model and the direct relationships between the latent variables. The data were subsequently analysed to determine the significance of the hypothesised paths in the model. The research objective of the study was to explain why variance exists in leader effectiveness, with specific reference to the role that ethical climate, organisational justice, ethical leadership and core ethical values play in this regard, not to the exclusion of other factors in the organisation. Structural Equation Modelling (SEM) was utilised as the statistical technique to examine the relationships between the latent variables represented through the structural model.

5.3.3.1 Goodness-of-fit indices for the Structural Model

The goodness-of-fit indices for the structural model are presented in Table 4.44. Through a comprehensive inspection of all of the fit indices it can be assumed that the structural model fits the data well. A summary of the most important fit indices is presented in Table 5.2.

Table 5.2

Summary of goodness-of-fit indices for the structural model

Indices	Structural model
Absolute Fit measures	
Satorra-Bentler Scaled Chi-Square	138.527 ($p < 0.05$)
X^2/df (Degrees of freedom = 81)	1.710
Root Mean Square Error of Approximation (RMSEA)	0.056
P-Value for Test of Close Fit (RMSEA < 0.05)	0.244
Root Mean Square Residual (RMR)	0.052
Standardized RMR	0.035
Goodness of Fit Index (GFI)	0.913
Incremental Fit Measures	
Normed Fit Index (NFI)	0.983
Non-Normed Fit Index (NNFI)	0.990

Adjusted Goodness of Fit Index (AGFI)	0.872
Comparative Fit Index (CFI)	0.993
Incremental Fit Index (IFI)	0.993
Relative Fit Index (RFI)	0.977

The null hypothesis of exact fit was rejected (H_0: $\Sigma = \Sigma(\theta)$), while the null hypothesis of close fit was not rejected (H0: RMSEA ≤ 0.05). Table 5.2 indicates that the obtained p-value (0.244) for the test of close fit (RMSEA < 0.05) supported the assumption of good fit, as a p-value > 0.05 is indicative of the model fitting the data well. In terms of the results of the absolute fit measures, the statistic (X^2/df = 1.710) for the structural model, suggested that the model did not fit the data well as it fell below the 2 to 5 range indicative of good model fit. In light of the RMSEA index (.056), the structural model achieved reasonable fit. The reported standardised RMR (.035) fell below the cut-off value of .05 and the RMR marginally missed it with a value of .052, which still indicated reasonably good fit. The obtained GFI (.913) managed to exceed the .90 level required for good fit.

With regard to the incremental fit measures it was found that, when compared to a baseline model, the structural model achieved NFI, NNFI, CFI, IFI and RFI indices that were all larger than .90.

To ensure a thorough assessment of the structural model, it was also necessary to investigate the modification indices to determine the extent to which the model explained the observed covariance amongst the manifest variables. Examination of the modification indices of the structural model calculated for the Beta matrix, as depicted in Table 4.47, suggested that two additional paths between endogenous latent variables would significantly improve the fit of the proposed structural model. The additional paths were between organisational justice and ethical leadership and the path between ethical climate and ethical leadership. In addition, examination of the modification indices calculated for the Gamma matrix, as depicted in Table 4.48, suggested that one additional path between the exogenous and endogenous latent variables would significantly improve the fit of the proposed structural model. The additional path was suggested between integrity and ethical climate.

A further examination of the gamma **(Γ)** and beta **(B)** matrices was conducted in order to establish the significance of the theoretical linkages proposed by the structural model, as illustrated in Figure 2.2. The interpretation of these results provided information with which to determine whether the theoretical relationships specified at the conceptualisation stage were in fact supported by the data. Here the interpretation concerns the proposed causal linkages

between the various endogenous and exogenous variables. The following section provides a discussion regarding the interpretation of these results.

5.3.3.2 Gamma matrix

The unstandardised gamma matrix was analysed and reported in order to assess the statistical significance of the relationships between the exogenous and endogenous variables. The completely standardised **(Γ)** was interpreted to evaluate the strength of the estimated path coefficients. The results are discussed in the following section.

5.3.3.2.1 The relationship between Integrity and Ethical Leadership

A positive relationship between integrity (ξ_1) and ethical leadership (η_1) was postulated. Results that were obtained through SEM statistical analysis presented support to confirm the relationship between these two constructs as the path was found to be significant in the structural model. This consequently led to the rejection of the null hypothesis. It can therefore be concluded that the positive relationship between integrity and ethical leadership was confirmed through the statistical techniques utilised in the present study.

Integrity has been widely recognised as a key attribute of ethical leadership (Brown *et al*., 2005; Craig & Gustafson, 1998; Engelbrecht & Cloete, 2000; Engelbrecht *et al.,* 2005; Resick *et al*., 2006; Treviño *et al*., 2003). Cohen (1993) asserted that ethical leaders communicate their values and standards through their consistent actions. In addition, Engelbrecht and Cloete (2000) declared that ethical leaders are consistent in their decisions and behaviour, which displays their dependability and trustworthiness, and give meaning and significance to routine activities at the workplace. Brown *et al*. (2005) supposed that ethical leaders' fundamental purpose is to develop ethical followers by intentionally acting as a role model.

Engelbrecht *et al*. (2005) are of the opinion that, for ethical leaders to be optimally effective, they should be perceived by followers as displaying a level of integrity consistent with followers' expectations. They furthermore asserted that leaders with integrity will aspire to be consistent and coherent in terms of what they believe; how they lead; and the type of organisations they want to build (Engelbrecht *et al*., 2005). Malan and Smit (2001) additionally stated that ethical leaders would personally demonstrate commitment and loyalty to the organisation, by behaving and leading with integrity, consistency and congruency. It could hence be assumed that ethical leaders who display high integrity behaviour are more likely to develop followers who display high integrity behaviour.

5.3.3.2.2 The relationship between Altruism and Ethical Leadership

It was hypothesised that a statistically significant positive relationship exists between altruism (ξ_2) and ethical leadership (η_1). Support was found in the present study for a positive relationship between these two constructs. When the postulated structural model consisting of all the latent variables was subjected to SEM, this path was found to be significant in the model. This subsequently led to the rejection of the null hypothesis. Consequently, it could be concluded that the positive relationship between altruism and ethical leadership was confirmed through the statistical techniques.

Altruism, as a principle of moral/ethical behaviour, including ethical leader behaviour, has received broad recognition and consideration from various researchers throughout the years (Bass & Steidlmeier, 1999; Burns, 1978; Carmeli & Josman, 2006; Cialdini *et al*., 1997; Conger & Kanungo, 1988; Engelbrecht *et al*., 2005; Kanungo & Mendonca, 1996; Kanungo, 2001; Malan & Smit, 2001; O'Shea, 2004; Rost, 1991; Valentine *et al*., 2011).

Rost (1991) believed that altruistic leaders can be seen as ethical leaders through attending to the broader community's goals and purposes. Burns (1978) further asserted that ethical leaders establish higher and broader moral purposes which are in conjunction with the common good and public interest. In addition, Bass and Steidlmeier (1999) claimed that an ethical leader who is concerned with the moral common good in the broadest sense can be regarded as altruistic. Consequently, ethical leaders can be regarded as altruistic if they are attentive to the moral interests of the community and the culture and, resultantly, demonstrate an ethic of caring towards others (Bass & Steidlmeier, 1999).

5.3.3.3 Beta matrix

The unstandardised beta (B) matrix was examined and reported in order to assess the statistical significance of the relationships between the endogenous variables. The B matrix reflects the slope of the regression of ηi and ηj and the results are discussed in the following section.

5.3.3.3.1 The relationship between Ethical Climate and Leader Effectiveness

A significantly positive relationship was hypothesised to exist between ethical climate (η_3) and leader effectiveness (η_4). The SEM results in section 4.9.2 revealed a significant path coefficient between these two constructs, which led to the rejection of the null hypothesis. Consequently, it can be assumed that the positive relationship between ethical climate and leader effectiveness was confirmed through the statistical techniques.

The relationship between ethical climate and leader effectiveness has been reported in the literature on several occasions (Dickson, Smith, Grojean, & Ehrhart, 2001; Eubanks *et al.,* 2012; Grojean *et al.*, 2004; Simha & Cullen, 2011; Upchurch & Ruhland, 1995; Wimbush &. Shepard, 1994). Kuntz *et al.,* (2013) suggested that the enforcement of formal ethics codes in an organisation depends largely on the presence of sound/effective leadership to model and reinforce desirable behaviours.

Comprehensive models of leadership furthermore identified organisational climate as a fundamental variable to explicate effective leadership behaviour (Naddaff, 1997; Harshman & Harshman, 2008).

It was consequently confirmed in this present study that a positive relationship exists between ethical climate and leader effectiveness. Leaders are viewed as effective leaders if an ethical organisational climate has been developed in the organisation.

The relationship between Organisational Justice and Leader Effectiveness

It was hypothesised that a statistically significant positive relationship exists between organisational justice (η_2) and leader effectiveness (η_4), but such support was not found in the present study for a positive relationship between these two constructs. When the postulated structural model consisting of all the latent variables was subjected to SEM, this path was not found to be significant in the model. This subsequently could not lead to the rejection of the null hypothesis. Although a positive relationship between organisational justice and leader effectiveness has been reflected in the literature (Van Knippenberg, De Cremer & van Knippenberg, 2007; Van Knippenberg, 2011), this hypothesis was not confirmed through the statistical techniques.

The perception that individuals are treated justly and ethically within an organisation could possibly be explained through the expectation that followers have of their leaders to be effective in creating the organisational justice. The relationship between the leader and the follower may influence the degree to which the followers perceive their leader to be effective in creating a fair organisational environment. Although the relationship was only indirectly (through mediation) confirmed, organisations should still take cognisance of the role that organisational justice could play in creating perceived effectiveness of leaders . The degree of this influence would require further research.

5.3.3.3.2 The relationship between Ethical Leadership and Leader Effectiveness

A positive relationship between ethical leadership (η_1) and leader effectiveness (η_4) was postulated. Results that were obtained through SEM statistical analysis presented support to

confirm the relationship between these two constructs as the path was found to be significant in the structural model. This consequently led to the rejection of the null hypothesis. It can therefore be concluded that the positive relationship between ethical leadership and leader effectiveness was confirmed through the statistical techniques utilised in the present study.

The support obtained in this study for the relationship between ethical leadership and leader effectiveness is also portrayed in the literature. Various studies have confirmed the statistically significant positive relationship between ethical leadership and leader effectiveness (Brown *et al*., 2005; De Hoogh & Den Hartog, 2008; Kalshoven & Den Hartog, 2009).

Ethical leaders are perceived by their followers as legitimate and attractive role models who gain and retain their attention, and consequently have a more effective influence on their followers. Characteristics of ethical leaders such as openness, fairness and consideration have furthermore been considered essential to perceived leader effectiveness (Yukl, 2013; Brown *et al*., 2005). Brown *et al*. (2005) and De Hoogh and Den Hartog (2008) furthermore found positive correlations between ethical leadership and perceived leader effectiveness (Kalshoven & Den Hartog, 2009).

Followers are likely to imitate an ethical leader's behaviours (Kalshoven & Den Hartog, 2009). Employees who can identify with, admire, and emulate their leader's behaviour, see them as role models of ethical and appropriate behaviour and are likely to perceive such a leader as more effective (Bandura, 1986; Kalshoven & Den Hartog, 2009; Kalshoven *et al.,* 2011). In short, it can be supposed that ethical leaders may be experienced by their followers as effective.

5.3.3.3.3 The relationship between Organisational Justice and Ethical Climate

The hypothesised relationship between organisational justice (η_2) and ethical climate (η_3) has been confirmed in this study. The SEM results indicated that the path between these two latent variables was found to be significant. The null hypothesis was consequently rejected, which resulted in the conclusion that a positive relationship between organisational justice and ethical climate was established.

The positive relationship between these two latent variables is also well documented in the literature (Erdogan, Liden & Kraimer, 2006; Fein, 2013; Tsai & Huang, 2008). The theoretical justification for this relationship originated through the belief that ethical climate perceptions represent norms regarding internal stakeholders. Resultantly, individual justice perceptions

can serve as antecedents to understandings of an organisation's ethical climate. To the extent that fairness and respect for individual outcomes are valued in an organisation, positive justice perceptions would be expected, at least in terms of interactional justice, to the extent that fairness and respect for individual outcomes are valued in an organisation (Erdogan, Liden & Kraimer, 2006). Tsai and Huang (2008) furthermore asserted that empirical support for connections between ethical climate and satisfaction with the distribution of valued outcomes such as promotion and pay has been noted by several researchers.

Support for the relationship between organisational justice and ethical climate could consequently be found, as it could hence be alleged that ethical climates exist in organisations where fair and ethical treatment of all employees is valued.

5.3.3.3.4 The relationship between Ethical Leadership and Ethical Climate

It was further postulated that a statistically significant positive relationship exists between ethical leadership (η_1) and ethical climate (η_3). Statistical support was not found in the present study for a positive relationship between these two constructs. This path was not found to be significant in the model through SEM, and the null hypothesis could therefore not be rejected.

Although a positive relationship between ethical leadership and work ethical climate was found in the literature (Brewster, Carey, Grobler, Holland & Wärnich, 2000; Dickson *et al.,* 2001; Grojean *et al.,* 2004; Sinclair, 1993; Stouten, van Dijke & Cremer, 2012), it could not be said that this hypothesis was confirmed through the statistical techniques.

This seems to be in contrast to previous research studies (Engelbrecht *et al*., 2005; Henning, Theron & Spangenberg, 2004; Pimentel *et al*., 2010). A possible explanation for the results may be that organisational justice mediates the relationship between ethical leadership and ethical climate. It may be that followers would only perceive their organisational environment as ethical if fair employee treatment existed in the organisation. Furthermore, the duration of the relationship between the leader and the follower may influence the degree to which followers perceive an ethical organisational climate. It may be that followers will perceive the organisational climate as ethical over time if they can see that their leader is ethical and consistent in his/her leadership responsibilities. This perception can be instilled through the leader's promotion of an ethical climate as leaders may have a direct influence on employees' perceptions of an ethical climate (Mayer *et al.,* 2010; Neubert *et al.,* 2009).

5.3.3.3.5 The relationship between Ethical Leadership and Organisational Justice

A significantly positive relationship was hypothesised to exist between ethical leadership (η_1) and organisational justice (η_2). The SEM results revealed significant path coefficients between these two constructs, which led to the rejection of the null hypothesis. Consequently, it could be concluded that the positive relationship between ethical leadership and organisational justice was confirmed through the statistical techniques.

The following was found through examination of the literature: Firstly, Buckley *et al.* (2001) are of the opinion that employees who perceive fair treatment will perceive managements' decisions as legitimate and understandable. Buckley *et al.* furthermore considered the three different aspects of organisational justice as intertwined with ethical leadership due to the fact that the decisions which ethical leaders make concern issues of fairness. Tatum *et al.,* (2003) revealed that the leader's decisions should reflect fair treatment and concern for all employees' welfare (Tatum *et al*., 2003).

In addition, Nielsen (1989) asserted that leaders should serve as role models who exhibit ethically acceptable behaviour and address ethical issues (Nielsen, 1989). Leaders' ethical behaviour is demonstrated through their explicit rewarding and punishment of certain behaviours (Hegarty & Sims, 1978, 1979; Treviño, 1986). Justice imposes on leaders to engage in fair decision-making processes. Brown *et al.* (2005) furthermore describes ethical leaders as honest, trustworthy, fair and caring individuals who make principled and fair choices and structure their work environments justly. It was confirmed in this present study that a relationship expressive of ethical leadership will promote the presence of organisational justice; employees will perceive ethical leaders' behaviour as fair and just, which will enhance their perception of the organisational justice.

5.4 LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

A number of limitations to this study may be identified. Firstly, the proposed ethical climate structural model was tested on a non-probability convenience sample of employees from two organisations based both in the Western Cape and Gauteng. The two organisations were also selected on a non-probability, convenience basis. Due to the non-probability sampling procedure that was used to select the sample, it cannot be claimed that the sample is representative of the target population. It is recommended that the stability of the model should also be examined in a cross-validation study on a different sample of respondents from the same population (e.g. companies in different regions in South Africa).

The second limitation relates to the reliance on employees' self-reports as source of data in research. The utilisation of self-report measurements is a common way of collecting data in the social sciences (Babbie & Mouton, 2001). This method is generally criticised for two main reasons. Firstly, the inferences made by the researcher (as to correlations and causal relationships between the variables in question) may be artificially inflated by the problem of common method variance. Secondly, such data are prone to response biases which should be acknowledged and understood when the results are interpreted (Donaldson & Grant-Vallone, 2002). It consequently is important to acknowledge that common method bias is a possible limitation in this study, since the data were collected at one single point in time utilising only self-reported questionnaires (Guthrie et al., 1998). When confirming the results of this research, future studies should hence consider making use of data from multiple sources to address this concern. In addition, Avey, Wernsing and Palanski (2012) refer to the level of congruence between self- and follower assessments which can be utilised to obtain multi-source data. According to Avey *et al*., (2012), single source bias can artificially increase the estimated beta weights.

The third limitation of this study concerns the confidentiality aspect of the survey. Integrity, ethical leadership, organisational justice, ethical climate and leader effectiveness are sensitive constructs when it comes to the relationship between leaders and followers in the organisational context. The investigation was seen as a medium-risk study, which means that respondents who participated in this study were exposed to medium risks. It was thus found that the variance in the data was limited. One reason for this may be that participants experienced concern regarding the confidentiality of their responses. Employees might have been concerned about the possible negative consequences of evaluating their managers/supervisor's integrity and altruism levels, ethical leadership competence, and leader effectiveness. Although it had been clearly communicated to participants that their information would remain anonymous and that nobody would be able determine their identity from the data that were submitted, future research should, however, focus on using measures that would ensure that all participants felt comfortable and confident about disclosing confidential information.

The constructs in this study captured the core elements of relationships between leaders and followers and how these can influence the leader's effectiveness. The study represents an attempt to explain specific relationships between these variables in order to gain a better understanding of this complex network. The structural model might have excluded other significant constructs in the process of investigating the effect of core ethical values on ethical leadership, organisational justice, ethical climate and leader effectiveness. The

purpose of this study was not to tire out the nomological network of leader effectiveness; the focus was restricted to a subset of variables considered to be important, such as, ethical leader values, ethical leadership, organisational justice, ethical climate and leader effectiveness, which represent the core elements of the research that was undertaken. Future studies could however explore other mediating and moderating variables (e.g. trust, work engagement, organisational citizenship behaviour) to clarify the relationship between ethical leadership and leader effectiveness

The last limitation concerns the statistical procedure that was followed. Several recommendations regarding the methodology that should be used in future studies are possible. In this study, confirmatory factor analysis was performed on the entire data set. Ideally, a random split of the sample from the start would have made it possible to subject the data to a second confirmatory factor analysis. It is recommended that, in order to cross validate the results, future studies should empirically test the structural model on another sample to determine whether the structural model also fits a second set of the data. It is also suggested that a longitudinal study of the proposed conceptual model should be undertaken to facilitate more convincing causal inferences.

5.5 PRACTICAL IMPLICATIONS FOR THE HUMAN RESOURCE PROFESSION

The last suggestion concerns the usefulness of the study's expected results for the human resource profession. This study was motivated by the argument that ethical leaders are frequently rated more effective and promotable than their less ethical counterparts (Brown, 2007; Johnson *et al.,* 2012; Rubin, Dierdorff & Brown, 2010). The employees of ethical leaders are more satisfied and committed to the organisation; more willing to put in additional effort; more willing to report problems to management; and ultimately more productive (Avey, Palanski & Walumbwa, 2011; Brown & Mitchell, 2010; Johnson *et al*., 2012; Khuntia & Suar, 2004; Mayer, Kuenzi, Greenbaum, Bardes & Salvador, 2009; Piccolo, Greenbaum, Den Hartog & Folger, 2010; Ponnu & Tennakoon, 2009; Toor & Ofori, 2009; Walumbwa, Mayer, Wang, Wang, Workman & Christensen, 2011).

It has been proposed that groups led by ethical leaders are less likely to engage in theft, sabotage, and other deviant behaviours. Such employees are more prone to demonstrate higher levels of organisational citizenship behaviour that goes beyond the requirements of the job (Brown & Trevino, 2006b; Johnson *et al.,* 2012; Walumbwa *et al.,* 2011). Employees working under ethical leaders might be more satisfied and more likely to view their organisations as effective. In addition, followers who perceive their leaders as ethical are more likely to report that they are satisfied with their individual repute in the organisation

(pay, job, progress, opportunity to make a difference), as well as with the organisation as a whole (how the organisation compares to other organisations, management, the organisation's future, employee capability). Ethical leadership enhances perceptions of ethical climate, which furthermore encourages job commitment and satisfaction (Johnson *et al.,* 2012; Neubert, Carlson, Kacmar, Roberts, & Chonko, 2009). Followers will pay particularly close attention to the words and actions of leaders who have significant influence on the organisation's context (Johnson *et al.,* 2012; Kramer, 2010).

Many of the decisions that management are confronted with have ethical implications or consequences. Leaders can do many things to promote ethical practices and oppose unethical practices in organisations (See Table 5.3, in Appendix C). Ethical leaders can be seen as transparent; engaging in open communication with followers; and clarifying expectations and responsibilities so that employees are clear about what is expected of them (De Hoogh & Den Hartog, 2008). The leader's own actions provide an example of ethical behaviour to be imitated by people who admire and identify with the leader. Leaders can also set clear standards and guidelines for dealing with ethical issues (e.g., establishing ethical codes of conduct) and provide advice on dealing with ethical issues. They can initiate discussions on ethical issues and reinforce ethical behaviour by including it in the criteria for rewarding performance. The leader can also help to mediate conflicts in a way that is consistent with ethical standards. It is appropriate to look for an integrative solution, but even if one cannot be found, it is still desirable to promote trust, fairness, and mutual respect among the actions (Yukl, 2013). As cited in Spangenberg and Theron (2005), Jose and Thibodeaux suggested a number of specific roles for ethical leaders. Leaders should set moral standards for the organisation; focus on integrity; clarify ethical dimensions of management decisions; and formulate and justify ethical principles which direct decision-making. Leaders should also commit to ethical principles through their influence on corporate culture and create a high degree of congruence, contributing to the ethical climate of the organisation. Leaders resultantly play a major role in establishing the ethical climate of an organisation, and that role requires leaders to be particularly sensitive to the values and ideals they promote (Northouse, 2001).

It is expected that the findings of the study will have several implications for the practice of leadership in organisations. Through the findings, the study aims to emphasise the importance of ethical leadership as an important path to leadership success/effectiveness. The study aims to encourage organisational leaders to improve the performance of their followers and their organisations by making ethics a priority through modelling moral behaviour; demonstrating concern; reflecting high character; setting a positive example; making ethics messages salient; and reinforcing ethical behaviour (Johnson *et al.,* 2012).

Lastly, the findings attempt to empirically justify why acting ethically is not only the right thing to do, but how it can additionally improve an organisation's productivity and ultimately increase its profitability (Johnson *et al.,* 2012).

5.6 CONCLUSION

This study analysed the following eight relationships: the relationship between core ethical values and ethical leadership; ethical leadership and organisational justice; ethical leadership and ethical climate; ethical leadership and leader effectiveness; organisational justice and ethical climate; organisational justice and leader effectiveness; and, lastly, the relationship between ethical climate and leader effectiveness. The main goal of the study was to investigate the effect of core ethical values on ethical leadership, organisational justice, ethical climate and leader effectiveness. Most of the hypothesised relationships were confirmed in the study.

The results of the study as presented in Chapter 5 make a significant contribution to the existing literature by providing insights into the strength of the relationships between the constructs. It recommends useful insight regarding managerial implications for organisations. These insights can reveal certain development areas for organisations which can be improved by means of adequate interventions.

Theorists have recognised the importance of ethics in organisational performance. They have discovered the significant influence that effective and ethical leaders have on the ethical behaviour of employees (Bass & Steidlmeier, 1999; De Hoogh & Den Hartog, 2008; Den Hartog & De Hoogh, 2011; Eisenbeiss, 2012; Kanungo & Mendonca, 1996; Malan & Smit, 2001; McDonald, 2009; Van Aswegen & Engelbrecht, 2009; Yukl, 2013; Kalshoven, Zhu, Avolio, Riggio & Sosik, 2011;).

Unethical employee behaviour is a reality in South African organisations (De Koker, 2007), but it has been discovered that effective leadership can minimise corruption in the SA public sector (Naidoo, 2012). Organisational leaders hence should take full responsibility for cultivating ethics through ethical leader behaviour, organisational justice and an ethical climate. By reinforcing these aspects, perceived leader effectiveness can be advanced among employees, which will ultimately effect overall organisational performance.

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APPENDIX A: REST'S ETHICAL DECISION-MAKING MODEL

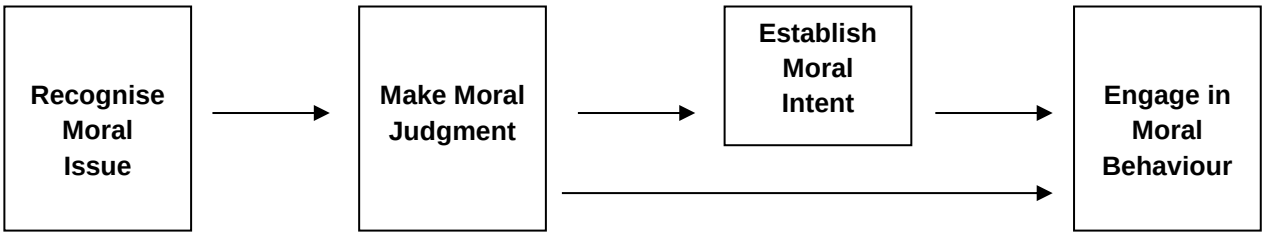

Figure 2.1 Rest's ethical decision-making model.

(Jones, 1991, p. 370)

APPENDIX B: INFORMED CONSENT FORM

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

STELLENBOSCH UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Research title: The effect of core ethical values on ethical leadership, organisational justice, ethical climate and leader effectiveness.

You are asked to participate in a research study conducted by Miss Janneke Wolmarans, from the Industrial Psychology Department at Stellenbosch University. The results obtained will contribute to the completion of a Masters of Commerce degree in Industrial Psychology. The results of this study will contribute to the completion of the thesis component of this postgraduate programme. You were selected as a possible participant in this study because you are a first line/non-managerial employee in an organisation who can give a valuable input to the data gathering process of this study.

3 PURPOSE OF THE STUDY

An organisation's ethical climate has a positive influence on the performance of the organisation. The relationship between leaders and followers, as well as leader's ethical values, ethical leadership and organisational justice are key aspects that could contribute to ethical employee conduct and ultimately to an organisation's ethical culture. This study will analyse the effect of core ethical values on ethical leadership, organisational justice, ethical climate and leader effectiveness.

4 PROCEDURE

Participation in this study is voluntary. If you volunteer to participate in this study, you will be asked to evaluate your manager's ethical leadership as well as his/her perceived integrity and altruism, the organisation's perceived ethical climate and organisational justice by means of five questionnaires. There are no right or wrong responses; we are merely interested in your personal opinions. The completion of the questionnaires will take place at a time and location that is convenient to you and the researcher and would require approximately 30 minutes of your time.

5 POTENTIAL RISKS AND DISCOMFORTS

There are no potential risks or discomforts envisaged in this study. Employees concerns regarding possible negative repercussions of evaluating their manager's/supervisor's ethical leadership competence, integrity and altruism will be reduced through assuring confidential utilisation of results. Management will be unaware of the assessment but the purpose of the evaluation will be explained and communicated to them afterwards. The obtained information will not been used to determine the performance levels of the managers individually or on average but rather to test hypothesised relationships between the specific variables. No inferences will consequently be derived from the results that will affect the managers being rated nor does it really matter who is been rated.

All questionnaires will be answered anonymously and participant's names and identities will not be disclosed (i.e. nobody will be able to determine their identity from the data that is submitted). Participants will not be exposed to any risks or discomfort other than the fact that they have to set aside approximately 30 minutes to complete the questionnaire.

6 POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participation in the study will provide the organisation with an opportunity to reflect on their ethical climate, perceived organisational justice, leader's ethical leadership, and leader's ethical values such as altruism and integrity. However participation in this study has no direct benefit to the individual participant. If this study can prove a positive relationship between ethical leadership, ethical climate and organisational justice, there should be an increasingly demand for ethical leaders in the workplace because of the value leader effectiveness gains for the organisation.

General feedback on the results of the survey will be provided to the organisations that participate in this study. The results can be an indication of whether the need exists to develop interventions and training programmes in terms of these constructs.

7 PAYMENT FOR PARTICIPATION

No payment will be made to participants for taking part in this study.

8 CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of a coding procedure.

The results of this study will be published in the form of a completed dissertation as well as in an accredited journal, but confidentiality will be maintained. Participant's names will not be published.

9 PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

10 IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Janneke Wolmarans (15020053@sun.ac.za / 0845157286) or Prof A.S. Engelbrecht (ase@sun.ac.za / 021 808 3003).

11 RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to *me, the participant,* by Janneke Wolmarans in English and *I am* in command of this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study. I have been given a copy of this form.

_____

Name of Subject/Participant

_____

Name of Legal Representative (if applicable)

_____ _____

Signature of Subject/Participant or Legal Representative **Date**

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the subject/participant]* and/or [his/her] representative _____ [*name of the representative]. [H*e/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in English and no translator was used.

_____ _____

Signature of Investigator **Date**

APPENDIX C: TWO ASPECTS OF ETHICAL LEADERSHIP

Table 5.3. Two aspects of ethical leadership

Promoting an Ethical Climate
1. Set an example of ethical behaviour in your actions 2. Facilitate the development and dissemination of a code of ethical conduct 3. Initiate discussions with followers or colleagues about ethics and integrity 4. Recognise and reward ethical behaviours by others 5. Take personal risks to advocate moral solutions to problems 6. Help others find fair and ethical solutions to conflicts 7. Initiate support services (e.g., ethics hotline, on-line advisory group)
Opposing Unethical Practices
1. Refuse to share in the benefits provided by unethical practices 2. Refuse to accept assignments that involve unethical activities 3. Try to discourage unethical actions by others 4. Speak out publicly against unethical or unfair policies in the organisation 5. Oppose unethical decisions and seek to get them reversed 6. Inform proper authorities about dangerous products or harmful practices 7. Provide assistance to others who oppose unethical decisions or practices

(Yukl, 2010, p. 351)