THE RELATIONSHIP BETWEEN AUTHENTIC LEADERSHIP, PSYCHOLOGICAL CAPITAL, PSYCHOLOGICAL CLIMATE, TEAM COMMITMENT AND THE INTENTION TO QUIT IN A SOUTH AFRICAN MANUFACTURING ORGANISATION.

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The relationship between authentic leadership, psychological capital, psychological climate, team commitment and the intention to quit in a South African manufacturing organisation.

By

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DECLARATION

I, Sharon Audley Munyaka (208106936) hereby declare that the thesis for Doctor Commercii Industrial Psychology is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another university or for another qualification.

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ABSTRACT

Grounded in the positive psychology paradigm the recently recognised core construct of psychological capital was focussed in a South African study. A non-experimental, correlational study (n=204) examined the relationship between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit. The present study was exploratory in nature and the pattern of relationships being investigated had not been previously tested in a South African context. A self-administered composite questionnaire consisting of five psychological scales were distributed to employees in the junior to senior management level at a global tyre manufacturing organisation based in Port Elizabeth, South Africa.

The five scales were the Authentic Leadership Questionnaire by Walumbwa, Psychological Capital Questionnaire by Luthans, Psychological Climate by Koys and DeCotiis, Team Commitment by Bennett and the Intention to Quit Scale by Cohen. All the measures applied on the South African sample were developed outside South Africa and model equivalence had to be established. The content and structure of the measures were investigated through confirmatory factor analysis and exploratory factor analysis. With the exception of the Cohen scale of intention to quit, all other measures changed their factorial structures to suit the present data.

The propositions in the study were tested through descriptive statistics, t-tests, ANOVA, post hoc tests, Cohen's d, Pearson product-moment correlation and multiple regressions. Structural equation models were built to test the relationships between the scales and sub scales of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit.

Results of the analyses carried out, show significantly strong relationships between the variables. Of note is the marked relationship between authentic leadership and psychological climate. Most of the propositions were accepted in light of the relationships that emerged. The proposition indicating structural equation models was rejected because none of the models built in the study successfully produced an adequate fit on the data.

Contributions of the study were in terms of the portability of the measurement instruments applied in the study as well as the relationships that emerged. Re-validation of the measures is required to enable clarity on how the variables in the study are interpreted across cultural contexts. Directions for future research include extending the study to other samples and other cultures. Measuring social desirability of the instruments could possibly provide clarity on how the different samples respond to the measures. Studies that compare the reading ability as well as the ability to comprehend the items in the measures would provide valuable information.

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'Write down the revelation and make it plain on tablets so that a herald may run with it. For the revelation awaits an appointed time, it speaks of the end and it will not prove false. Though it linger, wait for it, it will certainly come and will not delay'. Habakkuk 2 vs.2-3

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To God be the glory, through whom all things are made possible!

DEDICATION

For Ruvarashe, our beautiful flower, a real blessing in our lives and loved deeply…

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ACRONYMS AND ABBREVIATIONS

AGFI	Adjusted Goodness of Fit Index
AL	Authentic Leadership
ALQ	Authentic Leadership Questionnaire
ANOVA	Analysis of Variance
APA	American Psychological Association
CFA	Confirmatory Factor Analysis
CFI	Confirmatory Fit Index
ECVI	Expected Cross- Validation Index
EFA	Exploratory Factor Analysis
EXCO	Executive Management Committee
GFI	Goodness of Fit Index
GOF	Goodness of Fit
HR	Human Resources
IT	Information Technology
KMO	Keiser-Meyer-Olkin
MANOVA	Multivariate Analysis of Variance
MBA	Master of Business Administration
OB	Organisational Behaviour
OC	Organisational Commitment
OCS	Organisational Commitment Scale
PCQ-24	Psychological Capital Questionnaire

P Clim	Psychological Climate
POB	Positive Organisational Behaviour
POS	Positive Organisational Scholarship
PSYCAP	Psychological Capital
RMSEA	Root Mean Square Error of Approximation
SA	South Africa
SABPP	South African Board of People Practice
SEM	Structural Equation Modelling
TC	Team Commitment
TCS	Team Commitment Survey
UAE	United Arab Emirates
US	United States

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CHAPTER 1: The Problem and its Setting

1.1 Setting the Stage

A shift in the thinking by psychologists about human behaviour occurred during the last decades of the twentieth century and has given rise to a positive psychology movement and later to its application in the workplace. This current study is positioned within the emerging field of positive organisational behaviour (POB)/ positive organisational scholarship (POS) which have emerged from the positive psychology movement and aimed to explore a pattern of relationships that had not previously been investigated within the South African context. The variables under study are authentic leadership, psychological capital (PsyCap), psychological climate; team commitment and intention to quit.

1.2 Background to the Research Problem

According to Luthans, Norman, Avolio and Avey (2008), Friedman's (2005) notion that the 'world is flat', highlights the competition in modern day organisations, new thinking and new approaches that have become necessary for organisations to survive and to create sustainable growth and development. In response to this ever-changing global environment, an opportunity is presented for South African organisations to explore ways of increasing productivity and promoting organisations that are relevant, competitive and sustainable on a global scale.

According to the Black Economic Empowerment Commission Report (2001) colonial and apartheid policies led to significant distortions in the South African economy and the effects are still visible. Groenewald and Schurink (2003) state that the devastating impact of apartheid policies on the development of human capital in South Africa (SA) has led to the neglect of SA's '*most important economic resource'*- its people. This means that the impact will be long lasting and affect the potential growth rate thereby rendering many South African enterprises less competitive (Groenewald & Schurink, 2003).

Furthermore, Du Plessis and Barkhuizen (2012) state that the current global economic turmoil has contributed to a host of problems in the South African

workplace including social issues such as unemployment; fear of job losses, hopelessness and general pessimism. In addition, Groenewald and Schurink (2003) describe other social issues such as workers sitting idle when the boss is absent; teachers chatting rather than doing their work and '*go-slow*' attitudes promoted by unions. Further, Du Plessis and Barkhuizen (2012) argue that the social, economic and political challenges facing SA since 1994 can be addressed through utilisation of a positive approach in the workplace, fostering reconciliation and enhancing relationships and performance in a diverse society.

1.3 Positive Psychology

Positive psychology as the study of positive subjective experience, positive individual traits and positive institutions promises to improve quality of life and prevent pathologies that arise when life is barren and meaningless (Seligman & Csikzentmihalyi, 2000). This means that through positive psychology, factors that allow individuals, communities and societies to flourish will be understood. Seligman, (1998) in his presidential address at the American Psychological Association (APA), introduced the concept of positive psychology as a re-oriented science that emphasises the understanding and building of the most positive qualities of an individual: optimism, courage, work ethic, future mindedness, and interpersonal skill, the capacity for pleasure, insight and social responsibility.

Seligman and Csikszentmihalyi (2000) posit that the aim of positive psychology is to begin to catalyse a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities. In support of this notion (Luthans, 2002; Luthans & Youssef, 2007) state that there is a general consensus even among the few dissenting voices such as Fineman (2006), that the world in general, and our workplaces in particular, are in need of a more balanced approach that takes into consideration both the positive and the negative, building on strengths and trying to correct weaknesses.

Seligman (1998) expressed that ideally psychology should be able to document what kind of families result in the healthiest children, what work environments support the greatest satisfaction among workers, and what policies result in the strongest civic commitment. Positive psychology does not claim to have discovered the importance

of positivity to people nor is it a new idea (Seligman & Csikszentmihalyi, 2000; Luthans, & Youssef, 2007; Youssef & Luthans, 2007).

Peterson and Seligman (2003, p16) explain that the contribution of positive psychology has been to provide an umbrella term for what have been isolated lines of theory and research and to make the self-conscious argument that the good life deserves its own field of inquiry within psychology, at least until that day when all of psychology embraces the study of what is good along with the study of what is bad. With no distinguished ancestors, Seligman and Csikszentmihalyi (2000) highlight that the ancestors of psychology such as Sigmund Freud, Carl Jung, Abraham Maslow, and Carl Rogers somehow failed to attract a cumulative, empirical body of research to ground their ideas in areas such as humanistic psychology.

Seligman and Csikszentmihalyi (2000), in their quest for positive psychology, describe the state of psychology before World War II where the distinct mission of psychology was to cure mental illness, make people's lives more productive and fulfil, identify and nurture talent. Of note is the impact of the war on psychology where the empirical focus shifted to assessing and curing individual suffering (Seligman & Csikszentmihalyi, 2000). Seligman (1998) cautioned that though victories had been gained in assessing and healing within psychology, this has not impacted positively on everyone.

The challenge by Seligman (1998) was that psychology has a much larger mission and can contribute to building well-being, positive individuals, flourishing communities and a just society, and catapult the need for empirical research within positive psychology, such as the present study. According to Peterson and Seligman (2003), positive psychology urges that human goodness and excellence are as authentic as disease, disorder and distress. Carr (2004) further explains that the mission of positive psychology is to base conclusions about what would make a better world on science rather than on opinion or rhetoric. From the development of positive psychology came two streams of thought and research, identified as POS and POB. The central characteristics of these movements are presented in the next sections.

1.4 Transition to POS and POB

According to Donaldson and Ko (2010), there has been a paradigm shift in organisational behaviour (OB) towards positive psychology. Luthans (2002) explains that OB which emerged in the 1970s is defined as understanding, predicting and controlling human behaviour at work. It is the study of what people think, feel and do in and around organisations and is the overarching body of knowledge from which organisational theories have been developed. Luthans and Church (2002) explain that since the very beginnings of the academic field of OB at the Hawthorne Works of the Western Electric Company, a clear relationship between the positive feelings of employees and their performance had been recognised.

In addition, Linley, Harrington and Garcea (2010) explain that the early roots of modern and still emerging focus on the positive in organisations can arguably be traced in their form to scions of modern management thinking such as Douglas McGregor, and humanistic writers such as Carl Rogers, Abraham Maslow, Rollo May and Victor Frankl (Fineman, 2006). POB and POS have contributed to positive organisational outcomes such as performance, job satisfaction, work happiness, organisational commitment, flourishing organisations, meaningfulness, and high quality relationships (Avey, Reichard, Luthans & Mhatre, 2011; Cameron, Dutton & Quinn, 2003; Youssef & Luthans, 2007).

1.5 Focus of POS and POB

Cameron, et al. (2003, p.4) define POS as concerned primarily with the study of especially positive outcomes, processes, and attributes of organisations and their members. POS does not represent a single theory, but it focuses on dynamics that are typically described by words such as excellence, thriving, flourishing, abundance, resilience or virtuousness. It encompasses attention to the enablers (e.g. processes, capabilities, structures, and methods), the motivations (e.g. unselfishness, altruism, and contribution without regard to self) and the outcomes or effects (e.g. vitality, meaningfulness, exhilaration, high quality relationships) associated with positive phenomena.

Simply stated, (Cameron, et al., 2003) explain that POS highlights that which is positive, flourishing and life-giving in organisations. Several criteria for inclusion in POS have been explained by (Cameron & Caza, 2004). Firstly, being positive forms part of POS as this is the elevating process and outcome in organisations. A second criterion of POS is organisational which entail interpersonal and structural dynamics. A third criterion includes the context in which the positive phenomena occur. Cameron and Caza (2004) highlight the final criterion, scholarship, which is the scientific, theoretically derived and rigorous investigation of that which is positive in organisational settings. Cameron et al. (2003) explain that though POS focuses on the positive within organisations it does not reject the negative view.

POB developed by Luthans (2002) is the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed and effectively managed for performance improvement in today's workplace. Like positive psychology, the recently emerging POB does not proclaim to represent some new discovery of the importance of positivity but rather emphasises the need for more focused theory building, research, and effective application of positive traits, states, organisations and behaviours (Luthans & Youssef, 2007). POB can generally be termed as the application of positive psychology in the workplace (Luthans, 2002).

Luthans, Avolio, Avey and Norman (2007a, p.542) summarise the criteria needed for inclusion in POB as grounded in theory and research, valid measurement; relatively unique to the field of OB; state-like and hence open to development and change as opposed to a fixed trait; and having a positive impact on work-related individual level performance and satisfaction (Luthans, 2002; Luthans & Avolio, 2003, Luthans et al., 2007a).

Luthans (2002) states the need for POB to go beyond mere employee selection as is offered by positive traits to enable application and relevancy to leadership effectiveness and employee performance. Luthans (2002) further explains that POB capabilities are states that are open to learning, development, change and management in the workplace. These can be developed through training programmes, be managed, led on the job or self-developed. Further, Youssef and

Luthans (2007) highlight the relevance of POB in today's workplace which is characterised by fast-paced change, limited time and scarce financial resources.

Within POB is a major positive construct conceptually defined as psychological capital (PsyCap). PsyCap has been demonstrated to impact on employee attitudes, behaviours, and performance (Avey et al., 2011).

1.6 Similarities and Differences between POB and POS

The purpose of POB and POS is to add to an existing body of knowledge and to expand the focus in the light of current movements in the field like that of positive psychology, contribute to stimulate new theory building, development of new concepts and research and be able to apply this effectively to the workplace (Luthans & Avolio, 2009). According to Donaldson and Ko (2010), POB, like POS, studies organisations and work lives with positive approaches and put primary emphasis on the workplace and the accomplishment of work-related outcomes. Further, Luthans and Avolio (2009), state that POB does recognise the considerable past, present and future of positive constructs in OB but at the same time attempts to concentrate on underrepresented positive constructs like hope, resilience, courage and wisdom.

Hodgkinson and Ford (2010) explain that POS focuses on identifying human strengths and exceptional organisational performance (Cameron et al., 2003). According to Donaldson and Ko (2010), POB has been concerned with individual psychological qualities and their impact on performance improvement. This differs from POS which has been mostly concerned with the positive aspects of the organisational context. In addition, Caza and Caza (2008) consider POS as an alternative approach to studying organisations. They state that the important distinctions between POS and traditional organisational scholarship lie in POS's emphasis on positive processes, on value transparency and on extending the range of what constitutes a positive organisational outcome.

According to Youssef and Luthans (2007), POB is distinct from other positive approaches due to the scientific criteria of being theory and research-based and measurable. A difference between POB and POS is the state-like nature of POB

capacities that distinguish it from POS which tends to focus mostly on the creation of an optimum range of organisational factors that can help facilitate the necessary upward spirals for positive change (Cameron & Caza, 2004; Cameron et al., 2003). According to (Luthans, 2002; Luthans & Church, 2002; Luthans & Youssef, 2007; Luthans et al., 2007) this means that POB capacity is readily open and amenable to change and development.

Luthans (2002) states the need for POB to go beyond mere employee selection as is offered by positive traits to enable application and relevancy to leadership effectiveness and employee performance. Luthans further explains that POB capabilities are states that are open to learning, development, change and management in the workplace. These can be developed through training programmes, be managed, led on the job or self-developed.

Another difference highlighted by Youssef and Luthans (2007) is that the POS approach tends to focus more on the organisational or institutional and macro level as opposed to the individual and micro-level of analysis that characterises the psychological capacities that meet the POB inclusion criteria. According to Youssef and Luthans (2007) when comparing the strengths and virtues identified in positive psychology and POS, the impact on work-related outcomes is more apparent when empirically testing POB variables. In addition, Luthans and Avolio (2009) state that POB and POS may be similar in terms of positivity and scholarship but clear differences exist in operationally defining the constructs being focused upon. POS focuses on compassion, gratitude, forgiveness, relationships and energy. POB on the other hand focuses on hope, optimism, efficacy, ownership, wellness, engagement. Constructs that at times appear in both POB and POS are resilience, strengths and emotions.

The focus in level of analysis between POS and POB is also different. Luthans and Avolio (2009) further explain that some of the differences may be subtle but there should be consideration of the constructs at multiple levels to enable a distinction between POB and POS. Luthans and Avolio (2009) explain that POB has tended to develop in an inductive way from individual to group to organisational levels of analysis. POS on the other hand has been working in reverse going from

organisational to group to individual levels. However, both approaches show attention to specifying levels of focus and analysis.

An example of POS described by Cameron and Caza, (2004) emphasises levels when describing that POS is mainly concerned with interpersonal and structural dynamics, the context in which the positive phenomena occur. Cameron and Levine (2006) state that the organisation is motivated to change from being profitable, effective, efficient, or reliable in performance to being extraordinary, flawless, generous or benevolent with a number of empirical POS studies focusing on the organisational level. Luthans and Avolio (2009) highlight that even though POS at times seem to lean more towards the individual level the focus is more on the organisational level. This is the same for POB studies which focus on team and organisational levels of analysis.

1.7 Variables Included in the Present Study

In the present study the relationship between the variables of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit were investigated. These variables are defined below.

1.7.1 Authentic Leadership

According to Walumbwa, Avolio, Gardner, Wernsing and Peterson (2008, p94), authentic leadership is a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalised moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering self-development.

In addition, Avolio, Gardner, Walumbwa, Luthans and May (2004), state that authentic leaders know who they are, what they believe and value, and act upon those values and beliefs while transparently interacting with others. In addition, Walumbwa, Luthans, Avey and Oke (2011) highlight the key characteristics of authentic leaders are that they exhibit a pattern of openness and clarity in their behaviour towards others by sharing the information needed to make decisions, accept others inputs and provide constructive feedback to their followers.

According to Luthans and Avolio (2003), the move towards positive psychology in organisations means ideally appropriate leadership behaviour should cascade from the very top of organisations down to the newest employee. If authentic leadership behaviours cascade to all levels of the organisation, a change could occur in how the organisation functions and impact positively on work outcomes (Luthans & Avolio, 2003; May, Chan, Hodges & Avolio, 2003; Walumbwa et al., 2008).

1.7.2 Psychological Capital

Luthans and Youssef (2007, p.3) define PsyCap as an individual's positive psychological state of development characterised by having confidence (self-efficacy) to put in the necessary effort to succeed at challenging tasks, making a positive attribution (optimism) about succeeding now and in the future, persevering toward goals and when necessary redirecting paths to goals (hope) in order to succeed, and when beset by problems and adversity, sustaining and bouncing back and moving beyond previous levels (resilience) to attain success.

1.7.3 Psychological Climate

Koys and DeCotiis (1991) explain psychological climate as an experiential-based, multi-dimensional, and enduring perceptual phenomenon which is widely shared by members of a given organisational unit. Its primary function is to cue and shape individual behaviour towards the modes of behaviour dictated by organisational demands. According to Parker, Baltes, Young, Huff, Altmann, Lacost and Roberts (2003), psychological climate is operationalised as individuals' perceptions of their work environment.

Schulte, Ostroff and Kinicki (2006) expound that researchers in OB have long been interested in understanding employees' perceptions of the work environment and how these perceptions influence individuals' work-related attitudes and behaviours. Parker et al. (2003), explains that the extant literature on psychological climate highlights the relationship between psychological climate perceptions and its relationship to a variety of individual level outcomes in organisational behaviour which include job satisfaction, organisational commitment, job involvement, employee motivation, psychological well-being, and employee performance.

1.7.4 Team Commitment

Teams are an interdependent collection of individuals who work together toward a common goal and who share responsibility for specific outcomes for their organisation (Landy & Conte, 2010). Linked to teams is commitment which Ellemers, de Gilder and van den Heuvel (1998) describe as the willingness to dedicate oneself to particular values and goals and is often associated with attitudes and emotions (Landy & Conte, 2010). In addition, team commitment is the psychological attachment that the members feel toward the team. It is analogous to organisational commitment except that the target of the attachment is the team rather than the larger organisation, of which the team is a part (Pearce & Herbik, 2004).

Bishop and Scott (2000) explain that organisation (or team) commitment is the relative strength of an individual's identification with, and involvement in, a particular organisation (or team). Sheng, Tian and Chen (2010) found that team commitment can be significantly influenced by perceived team support, teamwork behaviour and trust. Therefore an individual would be more willing to remain and work in a team in the long term. Bishop and Scott (2000) suggest that it may be possible to influence employees' relative levels of commitment to the organisation by manipulating relevant antecedent variables.

1.7.5 Intention to Quit

Turnover of employees in organisations is a critical issue for managers in organisations. Lack of employee continuity and organisational stability, the high costs involved in the induction and training of new staff and organisational productivity are some of the challenges that arise as a consequence of turnover (Siong, Mellor, Moore & Firth, 2006). Intention to quit has been defined by Boshoff, Van Wyk, Hoole and Owen (2002, p14) as the strength of an individual's view that he/ she does not want to stay with his/ her current employer. In the present study an attempt is made to understand and measure the relationships that exist within organisations which could result in turnover or employee's tendency to stay with the organisation.

Boshoff et al., (2002) elucidate that the intention to quit or to stay with an employer, starts with the evaluation by the individual of his/ her current situation, and then he/

she moves through several further stages until a firm intention to quit is reached. Several studies have attempted to predict respondent's intention to quit measuring variables such as job satisfaction, organisational commitment, job characteristics, stressors, biographical variables and perceived support (Boshoff et al., 2002; Firth, Mellor, Moore & Loquet ,2004; Kahumuza & Schlechter, 2008; Siong et al., 2006).

1.8 Aim of the Present Study

The aim of the present study was to determine whether relationships exist between authentic leadership, PsyCap, psychological climate, team commitment and intention to quit as perceived by employees in a tyre manufacturing organisation in SA. This pattern of relationships among the variables stated above has not been investigated within a South African context. The relationship between the aforementioned variables could possibly indicate effective strategies that are appropriate for organisations in SA.

1.9 Objectives of the Study

- To measure the levels of authentic leadership, PsyCap, psychological climate, team commitment and intention to quit within a South African manufacturing organisation.
- To undertake an empirical investigation to test the proposed theoretical model of the relationships among the variables
- To measure variables that relate to the level of positive psychological capital within a South African organisation

1.10 Basic Methodology of the Study

This present study utilised survey research in gathering data. According to Kerlinger and Lee (2000), survey research studies small and large populations by selecting and studying samples chosen from the population to discover the relative incidence, distribution, and interrelations of sociological and psychological variables. In addition, Kerlinger and Lee (2000) explain that survey research falls under non-experimental

scientific inquiries aimed at discovering the relations and interactions among sociological, psychological, and educational variables in real social structures.

The present study was carried out in terms of a positivistic paradigm and utilises a quantitative approach. According to Babbie and Mouton (2001), positivism emphasises the search for universal laws of human behaviour, quantification in measurement, and a definition of objectivity which requires a distance between the researcher and the research subjects. In addition, Jonker and Pennink (2010) state that positivism asserts that the only authentic knowledge is that which is based on sense, experience and positive verification.

In line with the assumptions of the positivistic paradigm, Kerlinger and Lee (2000) describe the quantitative approach as assuming knowledge comes from observation of the physical world, investigator making inferences based on direct observations with the goal to describe cause and effect. In addition Babbie and Mouton (2001) highlight three features of the quantitative research paradigm. Firstly, is the emphasis on the quantification of constructs, secondly, the emphasis placed on variables in describing and analysing human behaviour and lastly, the central role afforded to control for sources of error in the research process.

This present research utilised a model-building approach to test the relationship between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit.

1.11 Research Setting

The organisation under study is part of a leading global tyre manufacturing company. The present study was undertaken at the South African head office in Port Elizabeth. As part of their global initiative, this manufacturer has been shifting towards a new set of corporate values. An annual employee survey based on these corporate values has in the last few years been conducted with feedback sessions available to employees at the end of the process. The organisation’s employee survey is aimed at getting feedback on topics like labour conditions, personnel development and commitment to the organisation. The outcome of the surveys conducted thus far have been deemed important in terms of understanding the culture of the

organisation, promotion of team work, creating transparency in how information flows across departments and building confidence and cooperation amongst employees. The annual survey in the organisation under study, intends to not only identify areas of improvement but to develop new actions to fill the gaps.

Within this background the organisation found the present study important in terms of understanding, from the perception of the employees and managers, their experience of the variables that are being measured within the South African context. Authentic leadership behaviours, as well as the level of psychological capital, perception of the psychological climate, level of team commitment and the employee's intention to quit were selected as variables for the study. The basis of the study was to highlight POB and its correlates within a South African manufacturing organisation and investigate the relationships between variables under study.

Notwithstanding the burgeoning positive psychology movement, a gap still exists in applying the current POB/POS research instruments and variables across various cultures. Knowledge of how the various POB/POS constructs fair across cultures will contribute to theory building and appropriate practical application in organisations. In addition, Luthans and Youssef (2007) state that the exploration of unchartered territories of untapped human potential is far from conclusive.

1.12 Significance of the Study

South Africa, with its history of apartheid, has made great strides towards transformation. Within the workplace legislation such as the Labour Relations Act (No. 6 of 1995), the Constitution of the Republic of South Africa (No. 108 of 1996), the Basic Conditions of Employment Act (No. 75 of 1997), the Employment Equity Act (No. 55 of 1998), and the Promotion of Equality and Prevention of Unfair Discrimination Act (No. 4 of 2000) provide a unique and complex context to apply positive psychology in the workplace. According to CRF International (2007) leaders in SA face a continual barrage of challenges, some new, some old, but all demanding fervent, visible leadership. Furthermore, the ever-changing global environment and advanced technologies have an impact on organisations.

This present study sought to understand the relationships between authentic leadership and how this relates to positive PsyCap, psychological climate, team commitment and intention to quit the organisation. The variables chosen in this study are important because of the theoretical and practical implications. Findings from the present study could possibly contribute to the extant literature on POB/POS and potentially provide strong evidence for the use of positive psychology within SA and enable practical application in strategies that enhance outcomes like performance.

1.13 Organisation of Chapters in the Study

Chapter 1

This chapter positioned the study within the broad focus of positive psychology in the work place and the theoretical framework built a foundation for investigation. The purpose statement, the significance of the study, definition of terms and limitations of the study were explained.

Chapter 2

This chapter provides a review of the literature that supported the study. Constructs under study are explained and empirical evidence provided. The process of developing the research questions is included in this chapter.

Chapter 3

In this chapter the methods used in the study basing on the conceptual model explored in chapter 2 are described. This includes the data collection method; sample, research instruments and approaches used for data analysis. The discussion also highlights the link to the aims and objectives of the study as presented in previous chapters. Data analysis approaches are discussed in full and data is presented in the following chapter.

Chapter 4

This chapter presents the findings of the study. The analysis was carried out in an attempt to prove or disprove the propositions put forward in previous chapters. This chapter makes an attempt to provide empirical evidence for the theoretical model put forward. As a correlational study, relationships between variables are discussed.

Chapter 5

This chapter discusses the relationships that exist and provides conclusions from the findings. The findings that contribute to the body of knowledge and provide empirical evidence from the model are put forward.

1.14 Chapter Summary

It is postulated that leaders who are themselves high in psychological capital exhibit authentic behaviours and may be instrumental in developing PsyCap, the psychological climate in the organisation, team commitment and influence the reduction in turnover intentions amongst employees. Although preliminary evidence suggests the relationship between the variables highlighted above, no research has examined this unique combination of variables.

CHAPTER 2: Literature Review

2.1 Introduction

The aim of the present study was to determine whether relationships exist between authentic leadership, PsyCap, psychological climate, team commitment and intention to quit as perceived by employees within a tyre manufacturing organisation in SA. This pattern of relationships among the variables stated above has not previously been investigated within a South African context. The relationship between the aforementioned variables could indicate effective strategies that are appropriate for organisations in SA. Positive psychology, the paradigm within which this present study is based, provides an opportunity within a South African setting to study how individuals could be developed to be able to respond effectively to the negative aspects of life in organisations and life in general (Linley et al., 2010).

This chapter begins by explaining the POB variables under study, highlighting the empirical evidence and situating them within the burgeoning positive psychology movement. Empirical evidence from studies done on the variables of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit is provided and probable gaps highlighted. In addition, this chapter puts forward a theoretical model, outlines the relationships that exist between the variables outlined in this study and puts forward research questions. The chapter concludes with a summary and an overview of the next chapters.

Several reasons led to the present study. Firstly the combination of variables in this study had not been previously investigated and it was envisaged that findings from the study would contribute to the extant literature. Furthermore the burgeoning positive psychology movement has led to a significant number of empirical studies in the US. This created a further opportunity to test a theoretical model grounded within the positive psychology paradigm within a South African setting. The sections that follow describe the variables in this present study in more detail.

2.2 Authentic Leadership

2.2.1 Origins of the Authentic Leadership Construct

Authenticity is described as owning one's personal experiences, be they thoughts, emotions, needs, preferences, or beliefs, processes captured by the injunction to knowing one-self and behaving in accordance with the true self (Harter, 2002; Luthans & Avolio, 2003; Kernis, 2003). According to Kernis and Goldman (2006, p284) contemporary psychological views of authenticity loosely set within topics such as *metaphysics* or *ontology*, firmly entrenched in particular movements such as *existentialism* or *phenomenology*, and localised to specific authors like *Sartre* or *Heidegger* owe a great debt to the works of Greek philosophy.

Erikson (1995) highlights the long history of authenticity and its growth over the past few decades and provides a philosophical perspective of authenticity. Kernis and Goldman (2006) posit that portrayals of authentic functioning date back to the ancient Greek philosophers such as Socrates. Trilling (1972) argues that the reference to sincerity and authenticity with such phrases like *to thine own self be true*' date even predate Shakespeare. Erickson (1995) explains that one manifestation of the historical embeddedness of authenticity is that any attempt to trace the concept's meaning across time constantly encounters problems of definition. Furthermore, Erickson (1995), cautions that authenticity is not an either/ or experience. One is neither authentic nor inauthentic but more or less authentic. Lastly, Kernis and Goldman (2006, p284) summarise the portrayal of authentic into four themes. Firstly, authentic functioning is characterised in terms of people's self understanding. Secondly, authentic functioning is in terms of openness to objectively recognising their ontological realities. The third theme of authentic functioning is actions and the fourth theme, is orientation towards interpersonal relationships.

The next section outlines the development of the authentic leadership construct through the evolving definitions that have been listed.

2.2.2 Development of the Authentic Leadership Construct

The development of the authentic leadership construct has spanned several decades as shown in the evolving definitions in Table 2.1.

Table 2.1: Summaries of Definitions of Authentic Leaders and Authentic Leadership.

Source	Definition
Rome and Rome (1967, p. 185)	"A hierarchical organization, in short, like an individual person, is 'authentic' to the extent that, throughout its leadership, it accepts finitude, uncertainty, and contingency; realises its capacity for responsibility and choice; acknowledges guilt and errors; fulfils its creative managerial potential for flexible planning, growth, and charter or policy formation; and responsibly participates in the wider community."
Henderson and Hoy (1983, pp. 67–68)	"Leadership authenticity is therefore defined as the extent to which subordinates perceive their leader to demonstrate the acceptance of organizational and personal responsibility for actions, outcomes, and mistakes; to be non-manipulating of subordinates; and to exhibit salience of self over role. Leadership inauthenticity is defined as the extent to which subordinates perceive their leader to be 'passing the buck' and blaming others and circumstances for errors and outcomes; to be manipulative of subordinates; and to be demonstrating a salience of role over self."
Bhindi and Duignan (1997, p. 119)	"In this article the authors argue for authentic leadership based on: authenticity, which entails the discovery of the authentic self through meaningful relationships within organizational structures and processes that support core, significant values; intentionality, which implies visionary leadership that takes its energy and direction from the good intentions of current organizational members who put their intellects, hearts and souls into shaping a vision for the future; a renewed commitment to spirituality, which calls for the rediscovery of the spirit within each person and celebration of the shared meaning, with purpose of relationship; a sensibility to the feelings, aspirations and needs of others, with special reference to the multicultural settings in which many leaders operate in the light of the increasing globalizing trends in life and work."
Begley (2001, p. 353)	"Authentic leadership may be thought of as a metaphor for professionally effective, ethically sound, and consciously reflective practices in educational administration. This is leadership that is knowledge based, values informed, and skillfully executed."
George (2003, p. 12)	"Authentic leaders use their natural abilities, but they also recognize their shortcomings, and work hard to overcome them. They lead with purpose, meaning, and values. They build enduring relationships with people. Others follow them because they know where they stand. They are consistent and self-disciplined. When their principles are tested, they refuse to compromise. Authentic leaders are dedicated to developing themselves because they know that becoming a leader takes a lifetime of personal growth."
Luthans and Avolio (2003, p. 243)	"[W]e define authentic leadership in organizations as a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviours on the part of leaders and associates, fostering positive self-development. The authentic leader is confident, hopeful, optimistic, resilient, transparent, moral/ethical future-oriented, and gives priority to developing associates into leaders themselves. The authentic leader does not try to coerce or even rationally persuade associates, but rather the leader's authentic values, beliefs, and behaviours serve to model the development of associates."
Avolio, Luthans et al. (2004, p. 4) as cited in Avolio, Gardner et al. (2004, pp. 802, 803)	Authentic leaders are "those individuals who know who they are, what they think and behave and are perceived by others as being aware of their own and others' values/moral perspective, knowledge, and strengths; aware of the context in which they operate; and who are confident, hopeful, resilient, and of high moral character."
Begley (2004, p. 5)	"Authentic leadership is a function of self-knowledge, sensitivity to the orientations of others, and a technical sophistication that leads to a synergy of leadership action."
Ilies et al. (2005, p. 374)	"Authentic leaders are deeply aware of their values and beliefs, they are self-confident, genuine, reliable and trustworthy, and they focus on building followers' strengths, broadening their thinking and creating a positive and engaging organizational context."
Shamir and Eilam (2005, p. 399)	"[O]ur definition of authentic leaders implies that authentic leaders can be distinguished from less authentic or inauthentic leaders by four self-related characteristics: 1) the degree of person role merger i.e. the salience of the leadership role in their self-concept, 2) the level of self-concept clarity and the extent to which this clarity centres around strongly held values and convictions, 3) the extent to which their goals are self-concordant, and 4) the degree to which their behaviour is consistent with their self-concept."
George and Sims (2007, p. xxxi)	Authentic leaders are "genuine people who are true to themselves and to what they believe in. They engender trust and develop genuine connections with others. Because people trust them, they are able to motivate others to high levels of performance. Rather than letting the expectations of other people guide them, they are prepared to be their own person and go their own way. As they develop as authentic leaders, they are more concerned about serving others than they are about their own success or recognition."
Walumbwa et al. (2008, p. 94)	"[W]e define authentic leadership as a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development."
Whitehead (2009, p. 850)	"In this article, a definition of an authentic leader is adopted as one who: (1) is self-aware, humble, always seeking improvement, aware of those being led and looks out for the welfare of others; (2) fosters high degrees of trust by building an ethical and moral framework; and (3) is committed to organizational success within the construct of social values."

Source: Gardner, W.L., Cogliser, C.C., Davis, K. M., & Dickens, M.P. (2011), pg 1122

2.2.3 Current State of the Construct

The growing field of POB/POS has produced several studies on authentic leadership, and work related outcomes (Avey et al., 2011; Walumbwa et al., 2011) and calls for more research is on the increase. The rise in interest is due in part to mounting evidence supporting the central role of positivity in enhancing human well being and performance at work (Walumbwa, Peterson, Avolio & Hartnell, 2010). In addition, the need for positive leadership in these contemporary times (Luthans & Avolio, 2003) has been spurred on by deep rooted concerns about the ethical conduct of today's leaders based on chilling examples of corporate and government malfeasance, falling levels of trust in leaders throughout the world, an upswing in highly publicised corporate scandals and broader societal challenges facing public and private organisations, and the requirement for leaders to be transparent with their intentions and have a seamless link between their espoused values, actions and behaviours. (Avolio & Walumbwa, 2012; Gardner, Cogliser, Davis & Dickens ,2011; George, Sims, McLean & Mayer, 2007; Luthans & Avolio, 2003; Walumbwa et al., 2008).

According to Avolio and Walumbwa (2012), with the rising use of electronic media like *wikileaks* and *glassdoor.com*, organisational leaders are being forced to address the reality of being more exposed in terms of not only their decisions, but literally every single communication they have had through electronic correspondence. Congruent with this line of thinking, George et al. (2007) state that the ongoing problems in business leadership have highlighted the need for a new kind of leader in the twenty-first century and that is, an authentic leader. George et al. (2007) argue that an authentic leader does not need to be born with particular characteristics or traits to lead. The journey begins with leaders understanding their life stories.

According to Clapp-Smith, Vogelgesang and Avey (2009), leadership research must move away from a hierarchical, leader-centric approach to a more integrative approach where followers, context, and group levels of analyses are hypothesised and tested to advance leadership theory. At an individual level, there is growing evidence that an authentic approach to leading is desirable and effective for advancing the human enterprise and achieving positive and enduring outcomes in organisations (Walumbwa et al., 2008). Several authors (Avolio et al., 2004; Avolio &

Walumbwa, 2012, Gardner, Avolio, Luthans, May & Walumbwa, 2005, Gardner et al., 2011) have advanced theoretical models on authentic leadership and empirical testing is required to determine applicability.

2.2.4 Remaining Differences of Opinion on Authentic Leadership

Several definitions and dimensions of understanding authentic leadership have been put forward. Avolio and Walumbwa (2012) acknowledge that strides have been made in understanding what constitutes authentic leadership and its development but other points of discussion remain in terms of what constitutes being self-aware, and what is understood as the true self. In the authentic leadership review by Gardner et al. (2011), the content and labels within authentic leadership though different, have in parts a clear overlap. Gardner et al. (2011) reviewed publications in authentic leadership and categorised these publications by theoretical foundation as follows: authentic leadership theory; authenticity; affective processes; attribution theory; ethical leadership; neo-charismatic leadership; positive psychology; well-being and other authentic leadership research.

Authentic leadership theory (Avolio & Gardner, 2005; Ilies, Morgeson & Nahrgang, 2005; Luthans & Avolio, 2003; May et al., 2003; Shamir & Eilam, 2005; Walumbwa et al., 2008) provided the conceptual underpinnings of authentic leadership and have been continuously growing. The category of authenticity is diverse and includes theories across disciplines (Gardner et al., 2011). Theorists such as Ilies et al. (2005); Luthans and Avolio (2003); Shamir and Eilam (2005); describe authenticity using terms such as self-awareness, self-regulation, self-knowledge, self-esteem, self-verification, self- concept clarity, self-certainty, self-determination, self-congruence, self-consistency, self-concordance and self-expression highlighting the difference in opinion as to what comprises authenticity.

In the category of affective processes, Gardner et al. (2011) highlights the need to explore affective processes underlying authentic leader-follower relationships perceived to be crucial for the advancement of the field of authentic leadership. In terms of attribution theory, Harvey, Martinko and Gardner, (2006) describe authenticity as an attribution with a continuum where individuals can vary from being fully authentic to being completely inauthentic. This highlights another lens through which authentic leadership and its components can be investigated and understood.

Walumbwa et al. (2008) posit that an advanced level of moral development is a requirement for the achievement of leader authenticity. Gardner et al. (2011) highlight the disagreement in literature about the inclusion of ethics as a core component of authentic leadership. Shamir and Eilam (2005) explain that authentic leaders have self-knowledge and self-concept clarity but do not make any reference to the moral or ethical values of the leader. This is a different viewpoint to that presented by (Avolio & Gardner, 2005; Walumbwa et al., 2008) who posited the notion that authentic leadership has an internalised moral perspective as a component.

According to Luthans and Avolio (2003), authentic leadership goes beyond transformational leadership. Gardner et al. (2011) acknowledge the influence of transformational leadership in terms of the relational transparency of the authentic leader. However, Gardner et al. (2011) states that additional research is required to clarify the relationship between transformational leadership as well as charismatic, visionary and other forms of neo-charismatic leadership.

While positive psychology generally applied to the workplace is desirable, leadership plays an important role in attempts to increase positive psychological resources within organisations (Luthans et al., 2007b). The definition of authentic leadership by Luthans and Avolio (2003) connected the emerging research in positive psychology, POB/POS and transformational leadership. The present study utilised the positive psychology paradigm and aims to contribute to the extant literature through investigating the relationship between authentic leadership, PsyCap, psychological climate, team commitment and intention to quit. An empirical study such as the study by Clapp et al. (2009) provides promising evidence of the relevance of PsyCap in studying authentic leadership.

The theoretical and practical importance of employee well-being and work engagement as outcomes of authentic leadership (Gardner et al., 2005; Ilies et al., 2005; Shamir & Eilam, 2005) has opened up another avenue of studying authentic leadership. Gardner et al. (2011) explains that there are theoretical foundations for authentic leadership that have not been categorised and would need further investigation. This implies that authentic leadership as a construct still has potential components that lead to differing opinions.

2.2.5 Value of Studying Authentic Leadership

The call for more authentic leaders, the rise in malfeasance in organisations, the growing positive psychology movement and the expanding authentic leadership construct provide a platform for understanding authentic leadership within a South African context. The majority of authentic leadership studies have been based on US samples and Gardner et al. (2011) express the need for scholars with more diverse disciplinary and cultural backgrounds that might facilitate the application of alternative theoretical perspectives for understanding how authentic leadership is manifest within and across cultures.

Within theory building, Gardner et al. (2011) identified that the majority of publications on authentic leadership have been conceptual, mainly reflecting a positivist approach as opposed to being interpretive. These shortcomings may be influenced by the strong influence of practitioner oriented writings (George et al., 2007) which may serve to undermine the legitimacy of the construct with scholarly reviewers (Gardner et al., 2011).

The review of the literature provides several reasons why studying authentic leadership is important. Firstly, there is a need for more research within authentic leadership for the purposes of stronger theory building. Secondly, research is required which will contribute to expanding the nomological network for authentic leadership. Thirdly, the use of more rigorous and diverse methods in authentic leadership is necessary. Finally, more attention should be given to authentic followership for the focus on authentic leadership development to continue (Avolio & Walumbwa, 2012, Gardner et al., 2011).

Cooper, Scandura, and Schriesheim (2005) caution against premature authentic leadership interventions without fully understanding the construct. In addition, (Gardner et al., 2005; Luthans & Avolio, 2003) suggest further research to understand authentic leadership which include antecedents like trigger events, positive psychological capacities, positive organisational context, organisational climate and personal stories. Cooper et al. (2005) state that understanding the authentic leadership construct systematically, and if it is grounded in theory and research this will generate knowledge that can ultimately benefit practice.

2.2.6 Empirical Studies on Authentic Leadership

2.2.6.1 Development of Measuring Instruments

Table 2.2 summarises instruments that have been utilised to measure authentic leadership in various empirical studies.

TABLE 2.2 Summary of Authentic Leadership Measuring Instruments

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Leader Authenticity	Henderson & Hoy (1983)	• **Leader Authenticity Scale** • 32 items developed for this study
Leadership Development Level	Eigel & Kuhnert (2005)	• **Leadership Development Level (LDL)** • Semi-structured interview coded into 20 scores (five distinctions for each for the four LDLs
Authentic Entrepreneurial Leadership	Jensen & Luthans (2006)	• Multi measure approach • 30 items from the Multifactor Leadership Questionnaire (Bass & Avolio, 1993) • 8 items from the ENTRESCALE (Entrepreneurial Orientation –(Knight, 1997) • 7 items from the caring and reversed items of the Ethical Climate Questionnaire (Victor & Cullen, 1988)
Authentic Leadership	Brown & Gardner (2007)	• Examined the positive role modelling component of the authentic leadership process (Gardner et al., 2005) including leader integrity through structured and open ended questions.
Authentic Leadership	Tate (2008)	• Authentic Leadership developed for the study • 17 items based on George's conceptual dimensions of authentic leadership • Three sub scales:self-discipline and ethical standards (9 items) • Establishing positive relationships (9 items) • Passion for purpose (4 items) • Authentic leadership score obtained through summation of all 17 items
Authentic Leadership	Walumbwa et al. (2008)	• **Authentic Leadership Questionnaire (ALQ)** • 16 items, 4 sub scales • Relational transparency (5 items) • Internalised moral perspective (4 items) • Balanced processing (3 items) • Four items formed a higher order construct: Authentic Leadership Factor
Authentic Leadership	Toor & Ofori (2009)	• **Authenticity Inventory** (Kernis & Goldman, 2005,2006) • 45 items, 4 sub scales • Self-awareness (12 items) • Unbiased processing (10 items) • Behaviour (11 items) • Relational orientation (12 items) • Summed to form composite Authenticity Score
Authentic Leadership	Wong & Cummings (2009)	• Single items reflecting **7 leadership behaviours** selected from the Leadership Practices Inventory (Kouzes & Posner, 2003)

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
		• **Leadership behaviours**: self-awareness, relational transparency, balanced processing, ethical behaviour, trustworthiness, supportiveness, empowering others • Items used as single indicators for the latent leadership concepts in a structural equations modelling analysis

For this present study the Authentic Leadership Questionnaire (ALQ) developed by Walumbwa et al. (2008) was utilised. See dimensions as described in Table 2.2.

The four components of authentic leadership as used in this present study are described as follows: The first component, self-awareness refers to demonstrating an understanding of how one derives meaning in the world and how that process impacts on the way one views him or herself over time Walumbwa et al. (2008). Kernis (2003) explains that awareness refers to having awareness of trust in one's motives, feelings, desires and self-relevant cognitions. It also includes being aware of one's strengths and weaknesses, trait characteristics, and emotions. Furthermore, self-awareness requires leaders to understand themselves and how their perceptions drive their assessments of people and situations encountered (Avolio, Griffith, Wernsing & Walumbwa, 2011).

The second component, relational transparency, refers to presenting one's authentic self to others. This behaviour promotes trust through disclosures that range from openly sharing to minimising displays of inappropriate emotions (Walumbwa et al., 2008). According to Kernis (2003) relational authenticity means being genuine and not 'fake' in one's relationships with others.

A third component, balanced processing, refers to the unbiased collection and interpretation of self- related information, whether it is positive or negative in nature (Gardner et al., 2005). This means the leader does not distort, exaggerate, or ignore externally based evaluations of the self nor internal experiences and private knowledge that might inform self-development. Avolio et al. (2011) further highlight that balanced processing involves leaders who show that they objectively analyse all relevant data before coming to a decision. Such leaders solicit views that challenge their deeply held positions.

The fourth component, internalised moral perspective is an internalised and integrated form of self-regulation (Walumbwa et al., 2008). This self-regulation is

guided by internal moral standards and values versus group, organisational and societal pressures and it results in expressed decision making and behaviour that is consistent with these internalised values (Avolio et al., 2011; Avolio & Gardner, 2005; Gardner et al., 2005; Walumbwa et al., 2008)

The four constructs described above were further operationally defined by Walumbwa et al. (2008) and loaded on a higher order factor, labelled authentic leadership. This higher order factor was discriminately valid from measures of transformational leadership and ethical leadership and was a significant and positive predictor of organisational citizenship behaviour, organisational commitment, and satisfaction with supervisor and performance (Avolio, Walumbwa & Weber, 2009).

2.2.6.2 Relationships with Variables not in the Study: Empirical Findings

Authentic leadership has been measured in several ways. Table 2.3 summarises empirical studies that measured authentic leadership with variables not included in the present study.

TABLE 2.3 Summaries of Empirical Studies of Authentic Leadership

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Hoy & Henderson (1983) Leader Authenticity Scale	591 teachers from 42 elementary schools in the US	• Positive modelling: Positively Related • Esprit: Positively Supported • Status Concern: Positively Related • Openness of Organisational Climate: Positively Related • Pupil Control Orientation: Negatively Supported	• **Supported**- assumption of the pivotal importance of leader authenticity in the development of the organisational climate of elementary schools • Leader authenticity of principals was significantly related to openness in organisational climate and to humanism in pupil-control orientation of the school • Openness in climate was significantly related to humanism in pupil-control orientation • Authentic leadership behaviour in which the principal accepts

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
			responsibility and does not abuse formal authority, fosters cooperation, self discipline, and democratic relations.
Tate (2008) Authentic Leadership	• 115 undergraduate students taking an upper level leadership course • 69 participants completed all measures	• Self monitoring (those high in self monitoring will more likely be perceived as leaders in a group's tenure- earlier and later) • Perceptions of leadership (initial perceptions and changing perceptions) • Authentic leadership	• **Not Supported** • Change in the extent to which individuals were perceived to be leaders by others varied across individuals, but this variability was not due to individuals' self monitoring, authentic leadership, or declining inter-rater reliability.
Wong & Cummings (2009) Leadership Practices Inventory	• Two groups from a Western Canadian health care agency. • Group 1 had 147 clinical provider staff • Group 2 had 188 administrative, research and support staff	• Burnout • Job performance • Supportive group • Trust in leadership • Job performance	• **Supported** • Supportive leader behaviour and trust in management are necessary for staff to be willing to voice concerns and offer suggestions to improve the workplace and patient care.
Giallonardo, Wong, & Iwasiw (2010) Authentic Leadership Questionnaire	• 170 registered nurses with less than 3 years nursing experience from the College of Nurses of Ontario, Canada	• Authentic leadership positively predict work engagement and job satisfaction • Work engagement mediates the relationship between authentic leadership and job satisfaction.	• **Supported** (authentic leadership and job satisfaction with work engagement) • **Partially supported** (mediating effect of work engagement for authentic leadership and job satisfaction)

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Spitzmuller &Ilies (2010) Leader Authenticity	91 mid level managers enrolled at a large Midwestern university in the US.	• Transformational leadership • Idealised influence • Individualised consideration • Inspirational motivation	• Supported – leader authenticity predicts perceptions of transformational leadership behaviours, focusing on the relationship between relational authenticity and the three facets of transformational leadership: individualised consideration, inspirational motivation and idealised influence. • Relationally authentic leaders were perceived to be more transformational in their leadership style than less relationally authentic leaders • Relational authenticity in leaders was associated with a stronger convergence in followers' perceptions of transformational leadership behaviour. • Conceptualisation of leader authenticity found to be multi-dimensional
Wong, Laschinger & Cummings (2010)	• 280 registered nurses • Working in acute care hospitals in Ontario, Canada	• Authentic leadership • Work engagement • Personal identification • Social identification	• Authentic leadership, personal identification and trust in manager: **Supported** • Authentic leadership, social identification, trust in manager: **Not Supported** • Authentic leadership and trust : Supported

2.2.6.3 Relationships with Variables included in the Study

Following the testing and validation process of the authentic leadership measure (Walumbwa et al., 2008); several studies were conducted to empirically test the construct. According to Gardner et al. (2011), in comparison to the antecedents, the outcomes of authentic leadership, whether they are conceptualised as mediating or dependent variables have received much greater empirical attention. The empirical

studies below highlight authentic leadership in combination with variables that have also been included in the present study.

Jensen and Luthans (2006) empirically tested authentic entrepreneurial leadership using a multi-measure approach as discussed in previous sections. The sample comprised 76 entrepreneurs from the Midwest in the US. The variables included in this study were psychological capital and authentic leadership. Components of PsyCap (hope, resilience, efficacy and optimism) were hypothesised as significantly related to authentic leadership and they were all supported. Jensen and Luthans (2006) argue that their findings suggest the potential value of recognising, developing, and leveraging the positive psychological capital of entrepreneurs. This will enable the entrepreneurs to authentically lead their emerging organisations to desired, successful outcomes. Though not formally included in the study, Jensen and Luthans (2006) included aspects of organisational performance in relation to sustained competitive advantage of enterprises. The sample comprised of privately owned enterprises and independent sources of verifiable financial performance could not be obtained.

In studies conducted by Luthans et al. (2007a) and Walumbwa et al. (2008), some of the samples comprised students or in other instances the sample size was limited which impacted on the empirical testing of the ALQ. Caza et al. (2010) argue that the portability of the ALQ (Walumbwa et al., 2008) was not influenced by cultural differences suggesting cultural equivalence allowing international use. Regarding gender in empirically testing the aforementioned variables, Caza et al. (2010) state that their findings show that PsyCap and authentic leadership have the same fundamental structure for men and women. However, the relationship between the authentic leadership and PsyCap is weaker for women.

According to Walumbwa et al. (2008) the basic factor structure of the ALQ was applicable across the Chinese, Kenyan and US settings, suggesting that the core components of authentic leadership may generalise across cultural contexts (Walumbwa et al., 2008). Furthermore, findings from the five independent samples across various cultures (Walumbwa et al., 2008), provide evidence that a positive relationship existed between authentic leadership and supervisor-rated performance. According to Walumbwa et al. (2008), practical implications from this study include

training leaders to be more authentic which may provide more return on investment; and combining authentic, ethical and transformational leadership into training regimens may provide strong positive impacts on long term motivation and sustaining high levels of performance.

Caza et al., (2010) empirically tested the authentic leadership, psychological capital relationship utilising the ALQ (Walumbwa et al., 2008). Their sample comprised 960 employed New Zealand adults and the authentic leadership and PsyCap measures were used to collect the data. The hypothesised, significantly positive relationship between the variables was supported. Caza et al. (2010) argue that their findings highlight the applicability of the authentic leadership and PsyCap measures with a sample of working adults and in broader organisational contexts.

Walumbwa et al. (2011) empirically tested authentic leadership amongst groups using 146 intact work groups from a large bank located in the Southwest of the US. The work groups consisted of 526 employees and their immediate supervisors. Using the ALQ (Walumbwa et al., 2008), data was collected at two different times. Other variables measured in this study were psychological capital, group trust, group citizenship behaviour, and group performance. The hypothesised relationship between the aforementioned variables and authentic leadership were supported. Walumbwa et al. (2011) state that their findings imply that authentic leadership is related to cognitions and behaviours not only at the individual level but also at the group level hence suggesting the importance of authentic leadership in organisations.

Woolley, Caza and Levy (2011) utilised the ALQ (Walumbwa et al., 2008). The study investigated the relationships between authentic leadership, follower PsyCap, and a positive work climate. The sample of 828 was drawn from employed adults in New Zealand. The study hypothesised that authentic leadership would increase levels of PsyCap and this was supported. Positive work climate was predicted to mediate the relationship between authentic leadership and PsyCap and this hypothesis was supported.

Furthermore, Woolley et al. (2011) hypothesised that the effect of authentic leadership on a positive work climate would be reduced when leader-follower gender values were dissimilar. Due to insufficient information based on the use of archival

data, Woolley et al. (2011) could not complete their testing of this hypothesis. Overall, Woolley et al. (2011) argue that PsyCap development may be the key developmental change that authentic leaders create among their followers and that this change is largely a result of the authentic leader's effect on organisational work climate.

Zamahani, Ghorbani, and Rezaei (2011) used the ALQ (Walumbwa et al., 2008). The sample comprised 200 randomly selected participants from five different departments within a large telecommunication company in Iran. Other variables included in the study were psychological capital, followers' trust and performance. Findings from the study supported the theory which hypothesised significantly positive relationships between the variables. According the Zamahani et al. (2011), their study further supports previous empirical studies (Norman et al., 2010; Walumbwa et al., 2008) that highlight the important role of positive psychological capital and authenticity of leaders to attain their followers' trust and encourage better performance.

2.3 Psychological Capital

2.3.1 Origins of Psychological Capital

According to Luthans et al. (2004), 'who I am' (psychological capital), is every bit as important as 'what I know' (human capital in terms of knowledge, skills, abilities and experience), and 'who I know' (social capital which includes your network of relationships). Based on the rising recognition of human resources as a source of competitive advantage, Luthans et al. (2006) advocate for PsyCap, a major construct within POB described as 'who you are' and 'what you can become in terms of positive development. Grounded within the positive psychology paradigm and developed from POB, PsyCap is comprised of the shared variance between the four first-order constructs of hope, optimism, efficacy and resilience (Avey et al., 2011). PsyCap draws mainly from Hobfoll's (2002) psychological resource theory which suggests some constructs are best understood as indicators of broader underlying factors.

Hobfoll (2002) defines resources as those entities that either are centrally valued in their own right (e.g. self-esteem, close attachments), or act as a means to obtain centrally valued ends (e.g. money, social support and credit). Furthermore, key resource theories generally focus on single or multiple individual difference variables (resources) that are considered key for effective adaptation and management of the demands of life (Gorgievski, Halbesleben & Bakker, 2011). Examples include theories on self-efficacy (Bandura, 1997), dispositional optimism (Scheier & Carver, 1987) and PsyCap (Luthans & Youssef, 2007). Luthans et al. (2007b) use the term psychological capacities versus resources as in Hobfoll's (2002) theory. Luthans et al. (2007b) argue that instead of competing for scarce, non-renewable resources that are subject to obsolescence, PsyCap capacities are renewable, complementary and may even be synergistic.

Avey, Luthans and Youssef (2006) explain that PsyCap attempts to integrate and advance the positive approach to organisational behaviour through being positive, theoretically based, measurable, developmental and performance related. According to Luthans et al. (2007b), the resulting impact of investing in, developing and managing overall PsyCap goes beyond the separate capacities of self-efficacy, optimism, hope and resilience. In addition, Avey, Luthans and Youssef (2010) state that PsyCap aligns the pursuit of positivity, flourishing and human fulfilment at work, with the bottom-line oriented measures required for adequate resource allocation within the realities of today's competitive environment.

The following section outlines the development of the PsyCap construct.

2.3.2 Development of Psychological Capital since Original Identification

Luthans et al. (2007b, p3) have formally defined PsyCap as an individual's positive psychological state of development characterised by having confidence (self efficacy) to take on and put in the necessary effort to succeed at challenging tasks, making a positive attribution (optimism) about succeeding now and in the future, persevering toward goals and when necessary redirecting paths to goals (hope) in order to succeed, and when beset by problems and adversity, sustaining and bouncing back and even beyond the previous level (resilience) to attain success. For potential inclusion in PsyCap, Luthans and Youssef (2007) argue that the following criteria must be met: be positive and unique to the field of OB; be theory and

research based; measurable, developmental and manageable for maximum performance impact in the workplace. In addition, Avey et al. (2010) state that PsyCap has been conceptualised, measured and developed in terms of a state-like positive core construct to which each of the individual resources of efficacy, hope, optimism and resiliency synergistically contribute.

According to Luthans et al., (2007b), PsyCap has been shown to be a second order factor which means that PsyCap incorporates the mechanisms that the discriminant constructs of efficacy; hope, optimism and resiliency have in common. Avey et al. (2011) argue that though an individual construct may be valid in terms of discriminant and predictive validity; it may be more beneficial to consider it as an indicator of something more core.

Luthans, Avey, Avolio and Peterson (2010), explain that the common link running among the four dimensions is a motivational propensity to accomplish goals and succeed. Bandura (1997) makes a distinction between efficacy and resilient efficacy and explains that resilient efficacy intentionally (through willpower), perseveres in spite of setbacks. Furthermore, Luthans et al. (2010) argue that a hopeful employee who encounters a setback to goal accomplishment, intentionally and proactively rebounds quickly to pursue an alternative pathway because he or she has high levels of optimism, efficacy, and resilience.

Based on the empirical evidence, Avey et al. (2011) argue that PsyCap is multidimensional in nature and fits as a second order factor. According to Law, Wong and Mobley (1998), a construct is considered multidimensional when it consists of a number of interrelated attributes or dimensions and exists in a multidimensional domain. The similarities evident amongst the components of PsyCap namely hope, optimism, efficacy and resiliency, further suggest the multidimensional nature of PsyCap (Bandura, 1998, Snyder, 2002). Luthans et al. (2008) elucidates that although hope, resilience, optimism and efficacy appear similar and interchangeable on the surface, they are conceptually and psychometrically distinct and can be discussed individually.

The section below describes the four constructs that make up PsyCap.

2.3.2.1. Hope

Hope theory attributed to Snyder (1994, 2002) is defined as the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways. In earlier definitions of hope, Snyder, Irving and Anderson (1991) argue that hope is a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal directed energy) and (b) pathways (planning to meet goals). The focus of hope theory is on the analysis of goal directed thoughts which can be undertaken at both the cross- situational and situational levels with equal emphases given to an understanding of a person's agentic and pathway thoughts (Luthans & Youssef, 2007; Snyder, 2002). According to Carr (2004), hope is strongest when it entails valued goals that there is an intermediate probability of attaining them due to challenging but not insurmountable obstacles. Snyder (2002) explains that people approach particular goal pursuits with thoughts of generating usable routes and constant pursuit of how to get from Point A to Point B.

Snyder (2002) identified two major types of goals within hope theory namely positive goal outcome and negative goal outcome. Snyder (2002) explains that within hope theory, the seemingly unreachable may become reachable and provides an example of a high hope person achieving what previously seemed impossible. In contrast Lazarus (2003) states that hope is a combination of a wish and a belief that the desired outcome could occur; and anxiety that it will not. Carr (2004), argues that when certain of achieving goals, hope is unnecessary and when certain that we will not, we become hopeless. Therefore, positive and negative emotions are by-products of goal directed hopeful or hopeless thought.

Utilising Snyder's (2002) conceptualisation of hope in the workplace, Luthans et al. (2007b) argue that hope is a psychological strength and is cognitive in nature based on the concept of willpower as outlined by Snyder (2002). The hope theory has been compared to theories of learned optimism, optimism, self-efficacy, self-esteem and problem solving (Snyder, 2002). Though similar in many aspects, the pathways component created and adapted to achieve goals and overcome obstacles, separates hope from other PsyCap states like resiliency, self-efficacy and optimism (Luthans & Youssef, 2007, Snyder, 2002).

According to Snyder (2002), pathways thinking should become increasingly refined and precise as the goal pursuit sequence progresses toward the goal attainment. Differences would depend on the trait level of the person for example high hope people would more likely tailor their routes effectively so as to reach their goals. Furthermore, Luthans and Youssef (2007) explain that this involves the quality of goals being set and the mechanisms through which increasingly challenging goals are selected, approached, accomplished and changed in light of additional evidence and new realities of the situation.

Empirical testing of hope in the workplace has occurred in various settings. According to Peterson and Luthans (2003), research suggests that managers with higher levels of hope have correspondingly higher rates of work unit performance as well as increased retention rates and more satisfied employees. In a study of Chinese factory workers, Luthans et al. (2005) found the empirical evidence of hope where Chinese factory workers' level of hope and their supervisor rated performance and merit salary are related. Additional studies provide empirical evidence of hope, performance and work attitudes (Youssef & Luthans, 2007); and entrepreneurs' hope and their satisfaction with business ownership (Jensen & Luthans, 2006).

Luthans et al. (2004) highlight that in firms with higher hope levels, human resources are more profitable, have higher retention rates, and have greater levels of employee satisfaction and commitment. In addition, Luthans and Jensen (2002) explain that hope positively impacted on the entrepreneurship process where results showed that higher hope entrepreneurs express greater satisfaction with business ownership and consider themselves relatively better compensated than those who have lower hope levels.

Related empirical evidence on hope and positive organisational outcomes is its relation to academic, athletics, physical health, psychological adjustment and psychotherapy (Snyder, 2002). Luthans et al. (2004) outline that there is considerable evidence that an individual's level of hope is related to a number of positive psychological outcomes, including goal expectancies, perceived control, positive affect and the ability to cope with hardship and stress. Additional research and theory building on hope in the workplace is ongoing and cross cultural

application being explored (Luthans, 2002, Luthans et al., 2004; Luthans et al., 2007).

2.3.2.2. Optimism

Scheier and Carver (1985) define optimism as a goal based construct which is present when an outcome has substantial value. Closely tied to positive psychology, optimism within PsyCap has been attributed to Seligman (1998) who draws his definition from attribution theory. Seligman (1998) depicts optimism as an attributional style that explains positive events through personal, permanent, and pervasive causes and negative events through external, temporary, and situation specific ones. The theory of optimism reflects the pattern of making external, variable and global attributions (Seligman, 1998). According to Snyder (2002), the focus of the optimism theory is on negative outcomes as being the key for one's attributional explanations hence optimistic goal directed cognitions are aimed at distancing the person from negative outcomes.

As a result of these attributional or explanatory style differences, Carver and Scheier (2002) explain that optimists build positive expectancies that motivate their goal pursuit and approach to coping behaviour in the future, whereas pessimists are hindered by self-doubt and negative expectancies. According to Seligman (1998) optimists are easily motivated to work harder, are more satisfied and have higher morale, have high levels of motivational aspiration, persevere in the face of obstacles and difficulties, analyse personal failures and setbacks as temporary and tend to make the individual feel upbeat and invigorated both physically and mentally (Luthans et al., 2004)

The positive impact of optimism on physical and psychological health and the attendant motivation resulting in academic, athletic, political and occupational success as well as a recognised performance impact in work settings is well documented (Luthans et al., 2007b; Luthans & Youssef, 2007; Schneider, 2001; Youssef & Luthans, 2007). The contrast to optimism is pessimism which is known to lead to passivity, failure, social estrangement and in its extreme, depression and death (Luthans et al., 2004). Optimism has been positively related to effective coping with difficult life situations (Scheier & Carver, 1985), life satisfaction (Bailey, Eng, Frisch & Snyder, 2007), workplace performance (Luthans et al., 2006), and

performance in various life domains like education, sports, and politics (Peterson & Seligman, 2003).

According to Luthans and Youssef (2007) optimism has been found to predict higher performance in sales, leadership and others. Optimism when directly applied to the workplace had a significant and positive relationship with performance of insurance sales agents (Seligman, 1998). In a study of the Chinese factory workers, Luthans et al. (2005) highlighted the significantly positive relationship of optimism with their rated performance. On the other hand studies on pessimism have been related to various negative outcomes such as depression and physical illness. Luthans and Youssef (2007) explain that the debate continues regarding the uni-dimensionality, bipolarity, or independence of optimism and pessimism.

2.3.2.3. Efficacy

Self-efficacy draws from the extensive theory and research of Albert Bandura. The concept of self-efficacy lies at the centre of Bandura's social cognitive theory which developed from social learning theory. Self-efficacy theory provides explicit guidelines on how to enable people to exercise some influence over how they live their lives (Bandura, 1997). Bandura (1997) changed his social learning theory to social cognitive theory, both to distance it from prevalent social learning theories of the day and to emphasise that cognition plays a critical role in people's ability to construct reality; self-regulate, encode information and perform behaviours.

The social cognitive theory posits a multifaceted causal structure that addresses both the development of competencies and the regulation of action (Bandura, 1986). Further, Pajares (2002b) highlights Bandura's social cognitive theory as a view of human functioning that accords a central role to cognitive, vicarious, self-regulatory, and self- reflective processes in human adaptation and change. People are viewed as self-organising, proactive, self-reflecting and self-regulating rather than as reactive organisms shaped and shepherded by environmental forces of driven by concealed inner impulses.

Drawing from Bandura's (1997) social cognitive theory, Stajkovic and Luthans (1998) define self-efficacy as the individual's conviction (or confidence) about his or her

abilities to mobilise the motivation, cognitive resources and courses of action needed to successfully execute a specific task within a given context. This means having confidence to take on and put in the necessary effort to succeed at challenging tasks. According to Luthans (2002), self-efficacy represents the best fit with all the POB criteria meeting capacities and this makes it relevant to POB. Although Luthans, et al. (2007b), use confidence and self-efficacy interchangeably, Bandura (1997) tends to treat confidence as conceptually subordinate to efficacy.

The psychological process involved in self-efficacy as perceived by Stajkovic and Luthans (1998, p66) is as follows: before employees select their choices and initiate their effort, employees tend to weigh, evaluate, and integrate information about their perceived capabilities. These beliefs that people have about their capabilities are called self-efficacy beliefs (Bandura, 1997). Pajares (2002a) elucidates that self-beliefs are instrumental to the goals being pursued and to the control people are able to exercise over their environments which could suggest that self-efficacy beliefs are intuitive. Nevertheless, Bandura (1997) explains that the efficacy belief is not an important contributor to skill development but operates as less of a factor after the skill is routinised.

According to Schwarzer (1992), self-efficacy makes a difference in how people feel, think and act. Bandura and Locke (2003) explain that self-doubt, scepticism, negative feedback, social criticism, obstacles and setbacks and even repeated failure, which can be devastating for people with low efficacy, have little impact on highly efficacious individuals. In terms of human performance in organisations, Stajkovic and Luthans (1998) state that employees who perceive themselves as highly efficacious will activate sufficient effort which if well executed, produces successful outcomes. In contrast, employees who perceive themselves as low in self-efficacy are likely to cease their efforts prematurely and fail at the task. Through regulating motivation and shaping aspirations and the outcomes expected for one's actions, Bandura (1997) states that a capability is only as good as its execution. To accomplish goals, confident individuals would employ the use of cognitive capacities like symbolising, forethought, observation, self-regulation and self-reflection (Bandura, 1997; Stajkovic & Luthans, 1998).

Self-efficacy is operationalised in terms of challenging self-set goals, self-selection into difficult tasks, self-motivation, generous effort investment and mobilisation toward task mastery and goal accomplishment, and perseverance when faced with obstacles (Schwarzer, 1992; Stajkovic & Luthans, 1998). Furthermore, Stajkovic and Luthans (1998) explain that within the organisational environment where employees operate, self-efficacy impacts on employees' knowledge and behaviour as well as individuals acting upon available information differently depending on their circumstances. According to Bandura (1986) self-referent thought mediates between knowledge and action, and through self-reflection individuals evaluate their own experiences and thought processes.

Within PsyCap, self-efficacy has the most established theoretical foundation and the most extensive research support across disciplines such as education, health and management (Luthans & Youssef, 2007; Pajares, 2002a). Self-efficacy has also been supported as a trait and state (Bandura, 1997) and measured as a state (Parker, 1998). Empirically, self-efficacy has a highly established relationship with numerous work related performance dimensions and strongly related to work related performance (Bandura & Locke, 2003; Stajkovic & Luthans, 1998). The desirable outcomes of self-efficacy include work attitudes across cultures (Luthans, Zhu, & Avolio, 2006), leadership effectiveness (Luthans, Luthans, Hodgetts & Luthans, 2001), moral or ethical decision-making (May et al., 2003), creativity (Tierney & Farmer, 2002), and participation (Lam, Chen & Schaubroeck, 2002).

2.3.2.4. Resilience

According to Masten and Gewirtz (2006), resilience is a general concept related to positive adaptation in the context of challenge. It refers to patterns of positive adaptation or development manifested in the context of adverse experiences. Resilience has its roots in clinical work especially child psychopathology and was believed to be a rare gift. However Masten (2001, p. 235) states that resilience does not come from rare and special qualities, but from the everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities. According to Luthans (2002), this 'ordinariness' of resiliency has tremendous implications for application to today's workplace. Instead of only portraying resilient individuals as exceptional case studies

of those who somehow defy the laws of gravity associated with adversity (Luthans & Youssef, 2007), they are described by Coutu (2002) as those who accept reality, strongly hold onto meaningful and stable values and beliefs, and possess effective adaptive mechanisms that allow them to flexibly improvise in response to unexpected situations.

Richardson (2002) presented a meta-theory of resilience and resiliency and identified three waves of inquiry and analysis. The first wave (also called resiliency qualities) was about the descriptions of resilient qualities of individuals and support systems that predict social and personal success. The second wave, also called the resiliency process, highlights the process of coping with stressors, adversity, change or opportunity in a manner that result in the identification, fortification and enrichment of protective factors. The third wave, innate resilience identified motivational forces within individuals and groups and the creation of experiences that foster the activation and utilisation of the forces.

Within the positive psychology paradigm, Masten and Reed (2002) define resiliency as a class of phenomena characterised by patterns of positive adaptation in the context of significant adversity or risk. According to Luthans, Vogelgesang and Lester (2006), though resiliency may be dispositional and trait like, there is considerable evidence that it is also state like and open to development. According to Luthans (2002) resiliency fits the POB criteria by being positive, unique, having a valid measure, being state like and open to development.

Based on the resilience research and the theoretical base, Luthans (2002, p702) defines resiliency in the workplace as the positive psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure or even positive change, to progress towards increased responsibility. Luthans et al. (2007a) explain that individuals may actually become more resilient to an adverse situation each time they effectively bounce back from a previous setback. Coutu (2002) describes resilient individuals as those who accept reality, strongly hold onto meaningful and stable values and beliefs, and possess effective adaptive systems that allow them to flexibly improvise in response to unexpected situations.

Similar to confidence and hope, resilience is commonly used on the surface and is similar to other positive capacities (Luthans, 2002). The main difference between

self-efficacy and resilience is that resiliency has a smaller domain and is reactive rather than proactive. In relation to hope (Snyder, 2002), resiliency is quite similar to the pathways component of hope, but does not include the agency dimension of hope. Furthermore, Luthans and Youssef (2007) highlight that labels given to people and consequently the ways in which the person is treated by mentors and peers can become self –fulfilling prophecies that can set that person up for success or failure, independent of the person's real ability to cope, adapt and bounce back.

Resiliency has been widely documented in clinical and developmental psychology (Block & Kremen, 1996; Letzring, Block & Funder, 2004; Masten, 2001). Luthans et al. (2007a) highlight the limited research evidence on resilience in the workplace but explain that pragmatically resiliency is expected to positively relate to improved performance, job satisfaction, and enhanced organisational commitment and enriched social capital. Luthans et al. (2005) found a significant relationship between the resilience of Chinese workers who were undergoing significant change and transformation and their rated performance.

Youssef and Luthans (2007) also found that employees' level of resilience related to their satisfaction, commitment and happiness. In a study by Larson and Luthans (2006) findings revealed that the factory workers' resiliency related to their job satisfaction. Based on the study of resilience amongst children Masten (2001), the findings suggest that resilience can be developed through asset-focused, risk focused and process-focused strategies that are relevant and applicable to the workplace (Youssef & Luthans, 2007). Further Block and Kremen (1996) highlight that resilience is measurable and has been shown to be applicable and related to performance in the workplace.

2.3.3 Current State of Psychological Capital

According to Avey et al. (2011) based on a meta-analysis on PsyCap, there are three major omissions in the PsyCap literature that provide opportunities for future research and for studies such as the present study to contribute to the understanding of PsyCap across various contexts. Firstly, leadership has been considered an antecedent of PsyCap and future research requires a systematic method of examining antecedents (Avey et al., 2011). This present study investigated the

relationship between PsyCap and authentic leadership within a manufacturing organisation.

Secondly, Avey et al. (2011) highlighted an omission of testing moderators that help highlight when PsyCap may be more or less important or useful in the workplace. Avey et al. (2010) highlights the developmental conceptualisation of PsyCap where PsyCap could create positive expectancies, trigger the creation of goals and motivate self-regulatory mechanisms that increase the probability of perseverance and success in a particular situation. The present study investigated the relationship between authentic leadership, PsyCap, psychological climate, team commitment and intention to quit. The findings from these relationships could contribute to the understanding of how PsyCap relates to other variables.

A third omission highlighted by Avey et al. (2011) is the use of alternative methods like qualitative and mixed methods of data gathering. The present study utilised a cross sectional study design and findings could contribute to understanding if challenges with study designs as highlighted in other studies are the same for the present study. In addition, Avey et al. (2011) recommend that future studies on PsyCap should examine the relative relationship of PsyCap across types of jobs, and across context through use of non-US based samples. The present study made use of a South African sample from a manufacturing organisation which could possibly add to the extant PsyCap literature. Further opportunities are in the practitioner application as PsyCap has been empirically shown to be developable (Avey et al., 2011). Findings from the present study could contribute to the development of PsyCap strategies appropriate for the South African context.

2.3.4 Remaining Differences of Opinion around the Definition of PsyCap

Though the burgeoning evidence on PsyCap points towards significantly positive work outcomes such as performance (Avey et al., 2011) there is room for further research to answer some of the differences in opinion. Peterson et al. (2011) argue that there are still unanswered questions within PsyCap such as the reason why PsyCap changes occur within individuals, or the conditions that drive the direction of that change. Examples of empirical studies include a study by Walumbwa et al.

(2011) which suggests that authentic leadership may enhance group members' PsyCap and trust levels, which in turn affect their citizenship behaviours.

In another study, Waumbwa et al. (2010) argue that the leader's PsyCap stimulates followers PsyCap which suggests the influence of the leader PsyCap on follower performance. According to Avey et al. (2011), the majority of the empirical studies on PsyCap have been cross sectional in nature, meaning that causal inferences cannot be drawn. However, Walumbwa et al. (2010) states that alternative explanations can be drawn from findings of cross sectional studies which may help explain the pattern of relationships.

In an empirical study of police officers and their followers, Walumbwa et al. (2010) argue that rather than leaders' PsyCap evoking PsyCap in the followers, it is possible that leaders who are high in PsyCap simply select followers who are also high in PsyCap. Walumbwa et al. (2010) give another example stating that there is a possibility that leaders who express positivity are simply better liked and their followers are willing to exert extra effort in their social exchange effort. Applying different methodological approaches such as experimental or longitudinal approaches may yield differing results and contribute to the understanding of PsyCap across contexts.

According to Peterson et al. (2011) differences in interpretation of empirical studies brings to the fore the need to further investigate the reasons for the person-to person variability in PsyCap and also individual difference variables such as core self-evaluations, positive emotions or the 'Big Five' personality traits.

2.3.5 Value of Studying PsyCap

According to Avey et al. (2011, p146) the empirical findings provide strong evidence that employees' PsyCap is related to their attitudes in the strength and direction which is generally considered desirable for meeting the goals for effective human resource functioning in today's challenged organisations. The strong relationship between PsyCap and work outcomes for US- based samples as opposed to those outside the US (Avey et al., 2011) provides an opportunity for the present study to contribute to the understanding of PsyCap applied in a South African context.

According to Luthans et al. (2010), further research is required to contribute to the nomological network representing the PsyCap construct.

Another opportunity presented by Avey et al. (2011) is the importance of PsyCap based on the type of work being done. This finding was a result of slightly stronger effect sizes for studies conducted in the service industry as compared to manufacturing. This present study was conducted in a manufacturing environment and findings may contribute to the theoretical and practical understanding of PsyCap. Luthans et al. (2007a) state that they used a strategy of modifying existing scales in developing the PsyCap measure. According to Luthans et al. (2010), the drawback of this approach is that some items that might have been developed to capture these constructs more fully may not have been included in the currently tested 24 item version of the PsyCap instrument. Other studies such as the present study provide a platform that could tap into better items that could improve the measurement properties of the PsyCap instrument.

A dearth of empirical evidence from the South African context still exists and the present study could contribute and respond to questions such as '*do positive beliefs really matter, or is this just hollow political rhetoric'* (Avey et al., 2011). Empirical studies done on the PsyCap measure Luthans et al. (2007a) present a limitation in terms of generalisability and construct validity across culture and industries. Studies such as the present one which was conducted in a tyre manufacturing industry could provide empirical evidence on the stability of the PsyCap measure. In addition, Avey et al. (2006) states that future research is required to empirically test the relationship of PsyCap with other variables that would demonstrate life experiences

2.3.6 Empirical Studies on PsyCap

2.3.6.1 Development of Measuring Instrument

Currently PsyCap is being measured by the 24 item instrument developed by Luthans et al. (2007b). To develop the PsyCap measure, Luthans et al. (2007b) utilised the various instruments already in place for measuring self efficacy (Parker, 1998), hope (Snyder et al., 1996), optimism (Scheier & Carver, 1985) and resilience (Wagnild & Young, 1993). Luthans et al. (2007a) aimed to demonstrate the

commonality that existed between the facets of PsyCap, namely the motivational propensity to accomplish tasks and goals.

Table 2.4 shows the components of PsyCap and summarises the various instruments that have been used to measure these individual constructs. The process of developing PsyCap will be discussed in more detail in Chapter 3.

TABLE 2.4 Summaries of Measuring Instruments for Components of PsyCap

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Measuring Hope		
Hope: Generalised Expectancy for Success Scale	Fibel & Hale (1978)	• **Generalised Expectancy for Success Scale** • A single scale score, constructed to define the belief of obtaining desired goals • 25 items
Hope: Dispositional Hope Scale	Snyder et al. (1991)	• **Dispositional Hope Scale (DHS)** • 12 items • 4 distracter, 4 tap agency for goals and 4 tap pathways thinking in regard to goals
Herth Hope Index	Herth (1991)	• 12 items • Multidimensional index designed to measure a global, non-time oriented sense of hope • 3 dimensions- temporality and future, positive readiness and expectancy; interconnectedness
Snyder State Hope Scale	Snyder et al. (1996)	• 6 items (3 items measuring agency and 3 items measuring pathways)
Hunter Opinions and Personal Expectations Scale (HOPES)	Nunn, Lewin, Walton & Carr (1996)	• 20 items • Hope • Despair
Hope Scale	Curry, Snyder, Cook, Ruby & Rehm (1997)	• 12 items • Agency • Pathways
Measuring Optimism		
Optimism: Life Orientation Test (LOT)	Scheier & Carver (1985)	• **Life Orientation Test (LOT)** • 12 item self report • Measures generalised positive outcome expectancies of people • 8 items measure dispositional optimism • 4 filler items includes to obscure the purpose of the LOT
Life Orientation Test Revised (LOT-R)	Scheier, Carver & Bridges (1994)	• 6 scored items • Measures trait optimism
Learned Optimism Test	Seligman (1998)	• 48 items
Optimistic Bias Scale (OBS)	Puga & Garcia (2009)	• OBS • 19 items

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Measuring Efficacy		
Self-Efficacy Scale (SES)	Sherer, Maddux, Mercandante, Prentice- Dunn, Jacobs & Rogers (1982)	• It's a measure of generalised self- efficacy. • 30 items • 2 factors- general factor of self-efficacy and a social factor of efficacy
The General Self Efficacy Scale (GSE)	Schwarzer & Jerusalem (1995)	• Measures generalised sense of competence • Assesses general sense of perceived self-efficacy with the aim of predicting coping with daily problems as well as coping with stressful situations • 10 items (originally 20 items)
Role Breadth Self Efficacy (RBSE) scale	Parker (1998)	• 10 items • Measures how confident employees are carrying out various tasks
Measuring Resilience		
The Dispositional Resilience Scale (DPR) 1, 2, 3	Bartone (1999)	• DPR1 has 45 items, 3 dimensions • DPR2 has 30 items, 3 dimensions • DPR3 has 15 items, 3 dimensions • Measures psychological hardiness(commitment, control and challenge) • Self-report
Resilience Scale	Wagnild & Young (1993)	• 25 items • Items are on personal competence and acceptance of self and life • Validated on adolescents
Ego- Resiliency Scale	Block & Kremen (1996)	• 14 item • Focus is on flexibility, curiosity, generosity and social skills
Psychological Resilience	Windle, Markland & Woods (2008)	• 19 items, 3 dimensions • Self-report • Assesses psychological resilience (self-esteem, personal competence ad interpersonal control) that acts as a protective factor against risks and adversities

2.3.6.2 Relationships of PsyCap with Variables not in Present Study

PsyCap has been empirically related to various variables. Table 2.5 summarises studies on PsyCap with variables not included in this study.

TABLE 2.5 Summaries of Empirical Studies on PsyCap

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Luthans et al. (2007a) 24 item PsyCap Questionnaire	• Sample 1: a US high tech manufacturing company comprising 115 technicians and engineers from a large Fortune 100 firm • Sample 2: a US service comprising 144 subjects across job functions and levels in an insurance services firm	• Performance • Job satisfaction	• **Supported**: positive PsyCap will be positively related to their performance and job satisfaction • **Mixed results** were noted when components of PsyCap were measured individually with performance and job satisfaction • PsyCap has a relatively stronger relationship to performance and job satisfaction than each of the individual facets of PsyCap
Avey, Wernsing & Luthans (2008) 24 item PsyCap Questionnaire	• 132 working adults across US organisations	• Mindfulness • Positive emotions • Engagement • Cynicism • Deviance • Organisational citizenship behaviours	• **Supported**: positive emotions positively related to employee attitudes of engagement and negatively to organisational cynicism) • **Supported**: positive emotions positively related to employee behaviours of organisational citizenship and negatively to workplace deviance • **Supported**: PsyCap positively related to positive emotions • **Mixed results**: positive emotions mediate relationship between PsyCap, and attitudes of engagement and cynicism and OCB and deviance • **Supported** although interaction effect was different: mindfulness will moderate the positive relationship between PsyCap and positive emotions
Luthans et al. (2008) 12 item PsyCap Questionnaire (Translated into Mandarin)	• 456 workers from the largest copper refining SOE and largest private copper refining factory in China	• Job performance	• **Supported**: positive PsyCap seems to be a significant and unique predictor of employee performance

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Luthans, Avey & Patera (2008) 24 item PsyCap Questionnaire	• Total of 364 working adults • Experimental analysis of 2 groups: control and treatment group • Treatment group: 187 participants • Control group: 177 participants	• Positive PsyCap being developed through web based training intervention.	• **Supported** significant increase of PsyCap after web based intervention suggesting PsyCap can be developed through short web based training
Luthans et al. (2010) 24 item PsyCap	• Pilot study had 242 advanced management students from a large US mid western university • Main study had 80 heterogeneous managers in a variety of organisations in a medium sized US mid western university	• Study was refining the psychological capital intervention under highly controlled experimental conditions • Analyse whether PsyCap development led to performance improvement	• Both pilot and main study **supported** the PCI as being able to develop PsyCap • Main study **supported** PsyCap as a higher order construct which could be developed in a relatively short training intervention and seems to have a positive impact on job performance.
Sweetman, Luthans, Avey & Luthans (2011) 24 item PsyCap	• 899 US working adults from a wide cross section of organisations, levels and jobs	• Positive psychological capital as higher order construct and creative performance • Creative performance and individual components of PsyCap	• **Supported**: both PsyCap as higher order construct as well as when creative performance measured with individual components of PsyCap
Peterson, Luthans, Avolio, Walumbwa & Zhang (2011) 24 item PsyCap	• 179 employees from the retail advisory department of a large financial service organisation in the US • Longitudinal study (7months)	• PsyCap • Supervisor rated performance • Changes in sales revenue	• **Supported**: change in PsyCap can predict a change in employee performance

2.3.6.3 Relationships of PsyCap with Variables in Present Study

According to the meta-analysis done by Avey et al. (2011), PsyCap has significantly positive relationships with desirable employee attitudes (job satisfaction, organisational commitment, and psychological well-being), desirable employee

behaviours (citizenship), and multiple measures of performance (self, supervisor evaluations, and objective). Significantly negative relationships with PsyCap were also highlighted such as undesirable employee attitudes (cynicism, turnover intentions, job stress, and anxiety), and undesirable employee behaviours (deviance). Further findings from the meta-analysis by Avey et al. (2011) suggest that PsyCap is a moderator where the relationship between PsyCap and employee outcomes was strongest in studies conducted in the US and in the service sector.

In a study of police officers in a large metropolitan city in the south western US, Walumbwa et al. (2010) empirically tested the relationship between leader and follower PsyCap, service climate and job performance. The sample comprised of 79 leaders and 264 followers. The PsyCap data was collected using a modified PsyCap measure consisting of 19 items. Findings from this study suggest that leader PsyCap significantly predicted follower PsyCap. Similarly follower PsyCap significantly predicted their supervisory rated performance.

Furthermore Walumbwa et al. (2010) state that their findings reveal that follower PsyCap completely mediated the effect of leader PsyCap on rated performance. A further finding supported in the study was the significance within group relationship between follower PsyCap and rated performance. Walumbwa et al. (2010) argue that there is a significant interaction between leader and follower PsyCap with respect to predicting performance above and beyond the contribution of the leader and followers self-reported levels of PsyCap. In addition, Walumbwa et al. (2010), measured the conditions under which PsyCap is more (or less) effective in promoting employee performance through testing the cross-level moderating influence of service climate. Findings from the Walumbwa et al. (2010) study provided strong support for service climates cross level moderating effect with the relationship between employees' psychological capital and their performance.

Toor and Ofori (2010) empirically tested the 24 item PsyCap measure as a source of sustainable competitive advantage and measured the variables of authenticity and transformational leadership. Utilising a systematic purposive sampling approach, Toor and Ofori (2010) had a small sample of 32 leaders in the construction industry in Singapore. The findings from this study suggest that authenticity and PsyCap bear significant and positive correlations. Toor and Ofori (2010) argue that their findings

suggest PsyCap plays an important role in positive organisational and individual work outcomes. Furthermore, Toor and Ofori (2010) state that transformational leadership has a mediating role in generating positive leadership outcomes for leaders with better PsyCap. The negative findings from the Toor and Ofori (2010) study suggest that PsyCap is negatively correlated with laissez-faire leadership hence PsyCap has potential to help organisations develop sustainable competitive advantage.

Caza et al. (2010) measured the relationship between PsyCap and authentic leadership. The survey data from this study was collected from 960 employed New Zealand adults. PsyCap was measured using the 12 item shortened versions together with the authentic leadership measure. According to findings from their New Zealand study, Caza et al. (2010) argue that the measures of PsyCap and authentic leadership are internationally acceptable.

Furthermore the results suggest that both instruments are appropriate for use in the majority of work and organisational contexts. According to Caza et al. (2010), their study was the first to empirically test the PsyCap measure outside the US and their findings suggest cultural equivalence. Another finding put forward by Caza et al. (2010) is that the PsyCap and authentic leadership measures were equally valid and reliable for use with men and women and that observed differences in their scores are not artefacts of instrument deficiencies.

In a study of PsyCap as a positive resource for combating employee stress and turnover (Avey, Luthans & Jensen, 2009) conducted a study in the US with 416 working adults across organisations. Findings from the study highlighted the significantly negative relationship between PsyCap and stress symptoms, intention to quit and job search behaviours. Stress partially mediated the relationship between PsyCap and intention to quit after all the conditions of the independent and dependent variables were met. Avey et al. (2009) argue that PsyCap may aid in combating stress and in turn reducing voluntary turnover.

Luthans et al. (2008) investigated the mediating role of PsyCap in a supportive organisational climate and employee performance relationship. The sample from the US, comprised of 404 management students from two Midwestern universities (study 1), 163 employees in the policy and claims processing group (study 2), and 170

technicians and engineers from a large Fortune 100 high tech organisation. Luthans et al. (2008) utilised the 24 item PsyCap measure in this study. According to Luthans et al. (2008), findings from two heterogeneous samples in the study supported the hypothesis that PsyCap is significantly related to performance, satisfaction and commitment. Luthans et al. (2008) explained that some of the samples in the study had been used in previous studies and were excluded in testing some of the hypotheses.

Other findings across the three samples revealed that supportive climate was significantly related to satisfaction and commitment. Furthermore, PsyCap mediated the relationship between supportive climate and employee performance. Luthans et al. (2008) argue that this is an important finding because the evidence from the study suggests that in concert with a supportive climate, PsyCap may have a desired impact on employees' actual performance. In addition, Luthans et al. (2008) explain that employees who perceive the climate in their organisation to be more supportive may be more likely to experience higher levels of PsyCap which in turn positively impacts on their performance in both service and high tech manufacturing firms.

Avey et al. (2006) empirically tested the additive value of positive PsyCap in predicting work attitudes and behaviours using a sample of 336 employees from a cross section of organisations in the US. Findings from the study support the hypotheses of significantly positive relationships with work outcomes such as organisation citizenship behaviours and significantly negative work outcomes such as intention to quit. Avey et al. (2006) argue that developing PsyCap may be an effective way to at least indirectly reduce turnover. This finding is important for the present study as PsyCap is being measured within a South African context in a manufacturing environment. Avey et al. (2006) highlight the need for future research to investigate the mechanisms through which PsyCap contributes to turnover intentions and actual turnover.

2.4 Psychological Climate

2.4.1 Origins of Psychological Climate

According to James, Choi, Ko, McNeil, Minton, Wright and Kim (2008), a defining feature of the latter part of the twentieth century was the cognitive revolution. James et al. (2008) explain that this cognitive revolution held the perspective that human cognition mediates the effects of environmental stimuli on human responses. This includes the important component of the psychological meaning that the environment has for individuals. In addition, Burke, Borucki and Kaufman (2002) highlight that since the 1970s, applied psychologists and management researchers have devoted considerable attention to studying the meaning of the individual's work environment perception in a variety of public, private and military organisations.

According to James et al. (2008) cognitive elements that were used to describe meaning focused on psychological constructs such as ambiguity, challenge, loyalty, cooperation, equity, rationality, stress and support to interpret environmental objects and events rather than to evaluate their impact directly. Schneider (1990) explains that climate is the shared perceptions of employees concerning the practices, procedures, and kinds of behaviours that get rewarded and supported in a particular setting. Parker et al. (2003) elucidate that employee's perceptions of virtually every aspect of their work environment have been included in psychological climate research and can be summarised under generic categories based on job, role, leader, work group and organisational characteristics.

Clissod (2006) describes the views of employees about their organisations' climate to be a relatively homogenous set of beliefs and perceptions of the organisation. Schulte et al. (2006) highlight the extensive climate research and describe climate as an experientially based description of the work environment and more specifically employees' perceptions of the formal and informal policies, practices and procedures in their organisation. Martin, Jones and Callan (2005) assert that climate is influenced substantially by the supervisor's behaviour such as listening and providing feedback. Climate research has been extensive and includes: safety climate (Clarke, 2010), organisational climate (Carless, 2004; Schulte et al., 2006) and psychological climate (Langkamer & Ervin, 2008; Martin et al., 2005).

Based on the assumption that employee perceptions have important effects on both individual and organisation outcomes, the use of climate surveys as a diagnostic tool for organisational improvement and change is widely accepted in applied settings (Parker et al., 2003).

2.4.2 Development of Psychological Climate

Psychological climate is described as the employee's perceptions of the work environment in which the work behaviour occurs (O'Neill & Arendt, 2008; Tordera, González-Romá & Peiró, 2008). Parker et al. (2003) explains that psychological climate can be conceptualised as an 'individual's psychologically meaningful representations of proximal organisational structures, processes and events. Koys and De Cotiis (1991, p.266) define psychological climate as an experiential –based, multi-dimensional and enduring perceptual phenomenon, which is widely shared by the members of a given organisational unit. Its primary function is to cue and shape individual behaviour towards the modes of behaviour dictated by organisational demands. Several other definitions and conceptualisations of the construct have been put forward as outlined in Table 2.6. For the present study, psychological climate is discussed in terms of the definition by Koys and DeCotiis (1991).

Table 2.6: **Summaries of Definitions of Psychological Climate**.

Source	Definition
Jones & James (1974)	"Psychological climate refers to the individual's internalised representations of situational conditions within the organisation and its sub units, tends to emphasise conditions that are relatively immediate to individual experiences, and reflects a cognitive transformation and structuring of these conditions into perceived situational influences."
Jones & James (1979)	"Psychological climate perceptions enable an individual to interpret events, predict possible outcomes, and gauge the appropriateness of their subsequent actions. The components of psychological climate are (**1**) job and role characteristics, (**2**) leadership behaviours, (**3**) workgroup and social environment characteristics, (**4**) sub unit and organisational characteristics
Joyce & Slocum (1979)	Psychological climate in general is an individual's perceptions of the work environment and the events that take place within it. psychological climate is (**1**) perceptual, (**2**) psychological, (**3**) abstract, (**4**) descriptive, (**5**) not evaluative, and (**6**) not actions
James & Sells (1981, p. 275)	"Psychological climate has been described as individuals' cognitive representations of relatively proximal situational events, expressed in terms that reflect the psychological meaning and significance of the situation to the individual."
Rousseau (1988)	"Psychological climate has been described as the employee's perceptions of the work environment in which the work behaviour occurs. This indicates that psychological climates in work settings have different facets."

Source	Definition
James & James (1989)	"Described psychological climate as furnishing the most readily identifiable set of variables in industrial/ organisational psychology for appraising work environments in terms of schemas based on these latent values. The psychological climate dimensions they discussed were: (**1**) role stress and lack of harmony, (**2**) leadership facilitation and support, (**3**) job challenge and autonomy, (**4**) work group cooperation , friendliness, and warmth. Further James and James (1989) suggested that a single higher order factor underlies the emotionally relevant valuations represented by psychological climate perceptions. This factor may be defined as a cognitive appraisal of the degree to which the work environment is personally beneficial or detrimental to the organisational well-being of the individual.'
Koys & DeCotiis (1991, p. 12)	"An experiential- based multi- dimensional, and enduring-perceptual phenomenon which is widely shared by the members of a given organisational unit. Its primary function is to cue and shape individual behaviour toward the modes of behaviour dictated by organisational demands. The dimensions of psychological climate are: (**1**) autonomy- the perception of self - determination with respect to work procedures, goals and priorities, (**2**) trust- the perception of freedom to communicate openly with members at higher organisational levels about sensitive or personal issues with the expectation that the integrity of such communications will not be violated, (**3**) cohesion- the perception of togetherness or sharing within the organisation setting, including the willingness of members to provide material aid, (**4**) pressure- the perception of time demands with respect to task completion and performance standards, (**5**) support- the perception of the tolerance of member behaviour by superiors, including the willingness to let members learn from their mistakes without fear of reprisal, (**6**) recognition- the perception that member contributions to the organisation are acknowledged., (**7**) fairness- the perception that organisational practices are equitable and non-arbitrary or capricious, and (8) innovation- the perception that change and creativity are encouraged, including risk taking into new areas or areas where the member has little or no prior experience."
Brown & Leigh (1996)	Psychological climate is the extent to which employees perceive the organisation to be psychologically safe and meaningful work environment. Dimensions of psychological climate have been described as (**1**) supportive management, (**2**) role clarity, (**3**) contribution, (**4**) recognition, (**5**) self-expression, (**6**) challenge.
Neal, Griffin & Hart (2000)	Psychological climate has been conceptualised as a multi-dimensional construct consisting of seven dimensions: (**1**) role clarity which is the degree to which work expectations and responsibilities are clearly defined, (**2**) supportive leadership which is the extent to which supervisors support their staff, (**3**) participative decision-making reflects the degree to which employees are involved in decision making about workplace issues, (**4**) professional interaction captures the quality of communication and support between employees, (**5**) appraisal and recognition, reflects the extent to which feedback and acknowledgement is given, (**6**) professional growth, is the extent to which skill development is encouraged and supported, and (**7**) goal congruence between individual goals and those of the organisation.
Burke et al.(2002)	Psychological climate has been broadly defined as individual perceptions of work environment characteristics."
Parker et al. (2003)	Psychological climate has been conceptualised as a molar construct comprising an individual's psychologically meaningful representations of proximal organisational structures, processes, and events."
Schulte et al. (2006)	"Individuals' own perceptions of the work environment constitute psychological climate at the individual level of analysis, whereas organisational climate has been proposed as an organisational or unit level construct."

2.4.3 Current State of the Concept of Psychological Climate

Parker et al. (2003) argue that employee climate perceptions have been studied for four decades. Parker et al. (2003) expresses that the increasing research and the influence of psychological climate perceptions on individual level outcomes, suggests the construct of psychological climate is alive and well. Psychological climate is believed to be a property of the individual and that the individual is the appropriate level of theory, measurement and analysis (Parker et al., 2003; Schulte et al., 2006). For this study psychological climate has been investigated at an

individual level and the relationship with other variables such as authentic leadership, PsyCap, team commitment and intention to quit explored.

According to Parker et al. (2003) the confusion regarding the constructs of psychological climate, organisational climate and organisational culture when referring to individuals' perceptions of their work environment, has been due to terms such as collective climate, organisational climate and organisational culture being used to refer to variables that are also analysed at the individual level. Parker et al. (2003, p.392) state that the existence of individual –level relationships may be one reason for believing that similar relationships exist at the group and organisation levels hence accumulating individual- level findings may help to inform theory building at the organisational level. Furthermore, Parker et al. (2003) argue that the limited agreement on the specific dimensions of psychological climate reveals the need for researchers to use terminology that is consistent with their level of measurement, theory and analysis.

Burke et al. (2002) explain that though intuitively appealing, the definition of psychological climate is lacking with respect to how individuals interpret environmental attributes in terms of the meaning and significance these attributes have for themselves and for others. According to Parker et al. (2003), employees' perceptions of virtually every aspect of their work environment, including the characteristics of their jobs, physical environment, supervision, top management, and co – workers have been included in psychological climate research. For this present study the multi-dimensional construct developed by Koys and DeCotiis (1991) was used to investigate psychological climate.

2.4.4 Remaining Differences of Opinion on Psychological Climate

From a methodological point of view, Parker et al. (2003) argue that the absence of theoretical boundaries has hindered the development of standard measures of psychological climate and made it difficult to compile empirical findings. In addition, Schulte et al. (2006) argue that further research is required to explore climate systems to determine if such systems meaningfully exist with other measures, in other samples and other organisational settings. D'Amato and Zijlstra (2008) also state that few attempts have been made to test comprehensive climate models particularly at the individual level using models such as James and Jones (1974).

Burke et al. (2002) illustrates the differences in opinion regarding psychological climate through identifying three primary perspectives of work environment perceptions which vary with respect to the theoretical bases of employee work environment perceptions. The first perspective propounded by Schneider and Reichers (1983) is the social constructionist or 'climate for something'. Burke et al. (2002) explain that this perspective views employees' perceptions as individual descriptions of their work environment that is their social context. These descriptions are the basis for individuals making sense of their work environment, and do not necessarily involve any emotional evaluation of the situation.

The second perspective propounded by James and James (1989) is the general psychological climate which hypothesises a higher order factor comprising an emotional evaluation of the degree to which the work environment is perceived to be personally beneficial or detrimental. Burke et al. (2002) explain that unlike the social constructionist perspective, the general psychological climate perspective explicitly emphasises the importance of personal values like clarity, responsibility, support and friendly social relations in the appraisal of work environment attributes.

The third perspective presented by Burke, Borucki and Hurley (1992) is the multiple stakeholder perspective. According to Burke et al. (2002, p. 329) this perspective is an extension of the view proposed by James and James (1989) who state that psychological climate perceptions assess the significance and meaning of work environments to individuals. Burke et al. (2002) state that the multiple stakeholder view proposes that first order psychological climate factors reflect not only personal value-based schemas (which are shaped by past history and possibly other individual difference variables) but also organisationally espoused values and management practices towards other stakeholders such as customers, suppliers, contractors, and the general public.

Furthermore, Martin et al. (2005) highlight the importance of qualitative research in identifying aspects of climate that are salient to employees which might be potentially stronger determinants of work attitudes than when examined quantitatively. Parker et al. (2003) also express the need for measures such as psychological well-being, employee motivation, and performance in a bid to contribute to the expanding psychological climate literature. Lastly, Martin et al. (2005) suggest that climate

scales should be designed in collaboration with members of the organisation to increase their ecological and predictive validity.

2.4.5 Value of Studying Psychological Climate

According to James et al. (2008) the benefits of climate research have only been partially realised and more research is required. In addition, D'Amato and Zijlstra (2008) state that general models seem to be out of fashion in research on psychological and organisational climate due to a tendency to look at models that focus on specific elements of the organisational mission. James et al. (2008) elucidate that climate is the only domain of organisational research that simultaneously examines perceptions of jobs, groups, leaders, and organisational attributes and thus has the unique capacity to decipher common denominators and latent relationships that are not available to those who study only specific domains such as perceived equity.

According to a study by D'Amato and Zijlstra (2008), their findings provided a theoretical extension of climate research by demonstrating that a holistic model that includes personal characteristics and work behaviour fits the data quite well, and provides an adequate description of life in an organisation. The current study utilises various constructs at the individual level which may contribute to understanding psychological climate in a manufacturing organisation. James et al. (2008) urge climate researchers to share their findings on the expanding knowledge of situational perceptions.

Parker et al. (2003) argue that the construct of psychological climate is little more than an umbrella term for various work environment perceptions and that to understand their effects we must resort to more specific theory related to job characteristics, leadership or other such variables. The present study explores the relationship between psychological climate and variables such as authentic leadership. Parker et al. (2003) express that there is value in studying psychological climate as a molar construct that represents the meaning people derive from their work place. According to Parker et al. (2003, p408) in maintaining the molar perspective, the theory of psychological climate is forced to consider and identify the psychological processes by which individuals make meaning of the events they experience in the workplace.

2.4.6 Empirical Studies on Psychological Climate

2.4.6.1 Development of Psychological Climate Measure

According to James, Choi, Ko, McNeil, Minton, Wright and Kim. (2008), psychological climate furnishes the most readily identifiable set of variables in industrial/ organisational psychology for appraising work environment in terms of schemas based on these latent values. Koys and DeCotiis (1991) explain that multiple climates may exist within the same organisation due to organisational level, location or different units within the same location. Further, Koys and DeCotiis (1991) explain that climate perceptions are stable over time and are also shared by the members of the relevant organisational unit.

Further, Burke et al. (2002) highlight different perspectives or models have been advanced to explain the structure of psychological climate. Koys and DeCotiis (1991) state the characteristics of psychological climate which include climate perceptions that summarise an individual's description of his or her organisational experiences rather than his or her affective or evaluative reaction to what has been experienced.

Table 2.7 summarises the various dimensions of psychological climate that have been propounded.

TABLE 2.7 Summaries of Psychological Climate Dimensions

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Psychological Climate Questionnaire	Jones & James (1979)	• **Psychological Climate Questionnaire (PC)** • 142 items developed for this study • 35 separate composites • 35 composites designed to measure four general areas of the organisational environment (job, leadership characteristics of the immediate supervisor, the workgroup, major sub systems e.g. departments as well as the total organisation) • An average of four items per composite area
Inductive Measures of Psychological Climate	Koys & DeCotiis (1991)	• **Psychological Climate** • 8 dimensions: autonomy, cohesion, trust, pressure, support, recognition, fairness, innovation • 40 items
Developed Psychological Climate	Brown & Leigh (1996)	• **Psychological climate measure developed based on Kahn (1990) ethnographic study of engagement** • 22 item measure • Dimensions of climate were: supportive

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
		management, role clarity, contribution, recognition, self expression, challenge
Psychological Climate Generic Scale	Hart, Wearing, Conn, Carter & Dingle (2000)	• **7 sub scales** • Role clarity (4 items) • Supportive leadership (5 items) • Participative decision making (3 items) • Professional interaction (7 items) • Appraisal and recognition (5 items) • Professional growth (5 items) • Goal congruence (5 items)
Psychological Climate	Romá, Väänänen, Ripoll, Caballer, Peiró & Kivimäki (2005)	• **Multi measure approach**- instruments by (Payne & Phesey, 1971; Kopelman et al., 1990; Koys & DeCotiis, 1991) • 9 item scale with 3 items per climate facet • 3 climate facets (support, goals orientation and rules orientation)
Developed a 3 dimension Climate Measure	Martin, Jones & Callan (2005)	• **Psychological climate- 3 dimensions** • Salient / organisational unique dimension (3 items) • Stakeholder dimension (4 items) • Supervisory support dimension (6 items) • Exploratory interviews held to determine items to include in the psychological climate measure
Developed a Psychological Climate Measure	Schulte, Ostroff & Kinicki (2005)	• Developed items based on 9 focus group discussions with employees of a US company who formed part of the sample • Also developed items based on previous psychological and organisational climate studies • 94 items • 8 climate scales in final structure (managerial support, company vision, open and clear communication, training focus, team focus, clarity, personnel support for service and rewards for service • Used 5 point Likert scale
Psychological Climate for Self-Management Scale (PCSM)	Renn & Huning (2008)	• Developed **Psychological Climate for Self-Management Scale** • Used Kopelman et al. (1990) 5 dimensions of psychological climate- goal emphasis, means emphasis, reward orientation, task support, socio-emotional support • Fused psychological climate theory with self-management using Kopelman et al. (1990) 5 dimensions • Adapted Schneider's (1998) scale for global service climate • 9 items

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Psychological Climate Swedish version of the Majer D'Amato Organisational Questionnaire (D' Amato & Majer, 2005)	Eisele & D'Amato(2011)	• **Swedish version of Majer_D'Amato Organisational Questionnaire (D'Amato & Majer, 2005)** • 10 factors/ scales • Communication (12 items) • Autonomy (6 items) • Team Cohesion (11 items) • Inter- team (5 items) • Job Description (5 items) • Job involvement (5 items) • Dynamism/ Development (5 items) • Reward Orientation (5 items) • Supervision/ leadership (8 items) • Innovativeness (5 items) • Corporate Responsibility (8 items) • 10 dimensions aggregated to form 3 foundation issues: organisational policies, job procedures and managerial practices

2.4.6.2 Relationship of Psychological Climate with Variables not part of Present Study

Psychological climate has been empirically tested with a range of variables as shown in Table 2.8:

TABLE 2.8 Summaries of Empirical Studies on Psychological Climate

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Strutton et al. (1993) Psychological Climate Scale by Koys & DeCotiis (1991)	• 208 sales persons in two Primary Metropolitan Statistical Areas in the Southern US	• Psychological climate • Trust	• **Supported**: findings suggest sales managers can shape the trust perceptions of their salespeople • **Supported**: six dimensions of a sales organisation's psychological climate were significantly associated with the trust that sales people place in their sales managers were: fairness, cohesion, recognition, innovation, autonomy and pre-eminence of the profit motive. • **Not supported**: no difference between trust and pressure

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Carless (2004) Multidimensional Psychological Climate Scale by Hart et al. (1996, 2000)	• 174 customer services employees in Australia	• Psychological empowerment • Psychological climate • Job satisfaction • Negative affectivity	• **Supported**: employee perceptions of their work environment directly impact on their influence of empowerment, which in turn influences their level of job satisfaction.
Romá, Väänänen, Ripoll, Caballer, Peiró & Kivimäki (2005) Developed Psychological Climate Measure -3 facets	• 303 nurses working in the Regional Public Health Service in Spain	• Psychological climate • Sick absence	• **Supported:** the three climate facets considered (support, goals orientation and rules orientation) showed a significant relationship with sick absence • S**upported** for men and not for women
Klem & Schlechter (2008) Koys & DeCotiis Psychological Climate Questionnaire- 8 dimensions	• 297 respondents • South African, Western Cape sample • Clothing manufacturing plant • Respondents across all departments	• Emotional intelligence • Psychological climate • Gender	• **Supported**: a significant positive relationship exists between leader emotional intelligence and psychological climate.
Tordera, Gonzalez-Roma & Peiro (2008) Psychological climate measured using FOCUS- First Organisational Climate/ Culture Unified Search	383 non supervisor employees working in 33 health centres in Spain	• Psychological climate • Leader member exchange quality • Role overload	• **Supported**: employees reporting higher quality LMX quality was negatively related to role overload • **Partially supported**: for three out of the four climate dimensions, the moderator role of psychological climate in the relationship between LMX quality and role overload was confirmed

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
D'Amato & Zijlstra (2008) Utilised the M_DOQ10 (D'Amato & Majer, 2001, 2005)	• Data collected in a major hospital in the North of Italy • Employees from 6 hospital wards representative of the whole organisation participated • 406 responses analysed	• Psychological climate • Self-efficacy • Performance • Organisational citizenship behaviour • Burnout	• **Supported:** OCB appears to mediate the relationship between the appraised work environment and self-efficacy on the one hand, and performance and burnout on the other hand • Structural changes in the organisation may have a greater impact in terms of prevention of burnout than helping people to develop adequate coping styles
Ntayi, Ahiauzu & Eyaa (2011) Developed climate measure from Schulte et al.(2006) and Lopez et al. (2005)	• 406 central and local government employees in Uganda • Procurement departments targeted	• Psychological climate • Catharsis • Organisational anomie • Psychological wellness • Ethical procurement.	• **Supported** psychological climate, procurement planning and organisational anomie were significant predictors of ethical procurement behaviour
Şahin (2011b) Psychological Climate for Self-Management Scale (PCSMS) – 9 items tapping 5 dimensions	• 244 respondents from two public sector organisations and 3 private sector institutions • Public sector: governmental agency and an educational institution • Private sector: finance, construction, manufacture • Sample from Turkey	• Self-leadership • Psychological climate • Job performance	• **Supported**: psychological climate acted as a moderator interacting with self-leadership in predicting job performance

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Eisele & D'Amato (2011) Swedish version of the Majer_D'amato Organisational Questionnaire-10 factors	• 599 total respondents (224 nurses, 93 physicians, 42 other health care personnel) • Study was done in a health care county in Sweden	• Psychological climate • General self-efficacy • OCB • Performance • Burnout	• **Supported**: psychological climate factors correlate negatively with burnout and positively with OCB

2.4.6.3 Relationship of Psychological Climate with Variables in Present Study

In a meta-analytic study by Parker et al. (2003) psychological climate has been shown to have stronger relationships with employees' work attitudes (satisfaction, commitment and job involvement) and their psychological well-being than with employees' motivation and performance. In addition, Parker et al. (2003) found that the psychological dimensions related to the employee's leader, work group and organisation had the strongest relationships with their work attitudes, whereas perceptions related to one's job and leader had the strongest effects on their psychological well-being.

In a study utilising the Koys and DeCotiis (1991) instrument, Boshoff et al. (2002) empirically tested psychological climate on a sample from a public company in the financial services field and a university. The total sample comprised 1484 respondents split as follows: the financial services organisation comprised of 675 respondents and the university 809 respondents. The study measured the relationship between intention to quit, work commitment (job involvement, organisational commitment, work involvement and career commitment), role strain (role conflict and role ambiguity) and psychological climate. According to Boshoff et al. (2002), psychological climate did not play a role in predicting intention to quit. Boshoff et al. (2002) cautions on the interpretation of this finding as portability of the Koys and DeCotiis (1991) instrument may be doubtful.

In a study empirically testing the role of psychological climate in facilitating employee adjustment during organisational change, Martin et al. (2005) utilised two samples in Australia. Sample one was comprised of 779 respondents in a public hospital setting and sample two was comprised of 877 public sector employees. According to Martin et al. (2005) employees who perceived that their leaders exhibited an enthusiastic vision for the organisation reported more positive change appraisals and higher levels of commitment.

From their findings, Martin et al. (2005, p. 263) reported that employees whose perceptions of the organisation and environment in which they were working (that is the psychological climate) were more positive, were more likely to appraise change favourably and report better adjustment in terms of higher job satisfaction, psychological well-being, and organisational commitment, and lower absenteeism and turnover intentions. Other findings from this study suggest the importance of including measures in climate research that are more organisation and situation specific (Martin et al., 2005).

Utilising a sample of 649 army personnel, Langkamer and Ervin (2008) empirically tested the relationship between psychological climate, organisational commitment and morale and intention to quit. According to Langkamer and Ervin (2008), the findings of the study supported affective commitment and morale as fully mediating the link between psychological climate and intent to quit. In addition, the findings by Langkamer and Ervin (2008) illustrate that leaders were believed to have an important role in employee perceptions of the organisation.

Langkamer and Ervin (2008) also highlight psychological climate, affective and continuance commitment, and morale as predictors of intent to leave the Army before retirement. In addition, Langkamer and Ervin (2008) highlighted that their findings illustrated perceptions of leaders strongly influence assessments of one's working environment, implying that individuals interpret situational events and predict outcomes by creating perceptions in regard to how beneficial or detrimental the work environment is to their well-being.

Employing a mixed method approach, O'Neill and Arendt (2008) assessed psychological climate in a global manufacturing company in the US. Their sample comprised of 881 respondents in two business units in a large global manufacturing

company in the US. According to O'Neill and Arendt (2008), their findings suggest that different bundles of psychological climate variables yield similar outcomes depending on the context studied bolstering the need to identify the right context in field research. O'Neill and Arendt (2008) utilised three subscales of the Koys and DeCotiis (1991) instrument and the findings revealed that psychological climate dimensions were significantly associated with several important work attitudes like organisational commitment and intention to leave.

In a study in Iran, Nammi and Nezhad (2009) measured the relationship between psychological climate and organisational commitment. The sample comprised of 170 teachers in public elementary schools in Iran. To measure psychological climate, Nammi and Nezhad (2009) utilised the Koys and DeCotiis (1991) measure. Findings from the study suggest that the teachers' perception of their work environment directly influences their level of organisational commitment.

Şahin (2011a) utilising a sample of 238 Turkish employees from private security services empirically tested the relationship between affective commitment, psychological climate and turnover intention. According to Şahin (2011a), the findings from the study indicated that psychological climate perceptions were significantly associated with affective commitment and turnover intentions even after controlling for demographic variables. Additional findings suggest that perceptions of psychological climate predict turnover intentions either directly and/ or through the mediating role of affective commitment. Şahin (2011a) states that managers and organisations could develop their employees' affective commitment and decrease the turnover intentions if they invest in a more positive climate.

2.5 Team Commitment

2.5.1 Origins of Team Commitment

In organisational theory and research, attempts to predict the behaviour of individual workers in organisations have focused on organisational commitment as a crucial psychological factor (Ellemers et al., 1998; Mathieu & Zajac, 1990; Meyer & Allen,

1991). Harter and Blacksmith (2010) explain that organisational commitment is generally defined as attitudes toward, or loyalty to, the employing organisation. According to Bishop and Scott (2000) commitment in the workplace is a multidimensional phenomenon and the focus of commitment (i.e. to whom or what an employee is committed) is an important dimension in assessing worker attachment. In addition, Meyer and Allen (1997) elucidate that organisations provide the opportunity to do important and challenging work, meet and interact with interesting people, and learn new skills and develop as a person, which leads to the development of commitment.

According to Bishop, Scott and Burroughs (2000), the use of work teams has become a popular strategy for increasing productivity and worker flexibility in the US. Approximately 78% of US organisations have organised some of their employees into work teams. Pearce and Herbik (2004) describe team commitment as the psychological attachment that the members feel toward the team. It is analogous to organisational commitment except that the target of attachment is the team rather than the larger organisation, of which the team is a part. As a developing component of commitment, the present study aimed to contribute to the expanding literature on team commitment.

According to (Becker, 1992; Ellemers et al., 1998) employees are committed to teams and departments rather than to the organisation in general. This means employees are more likely to be committed to their supervisor, team, union, or another entity than to an organisation which would be far less of a reality to them than other entities would be. Reichers (1985, p.470) made a similar assertion and asks the question '*what is it that employees are committed to?*' and responds by stating that employees in organisations are committed in varying degrees, to several distinct sets of goals and values; those espoused by top management as well as those espoused by customers and other relevant publics. Ellemers et al. (1998) reiterates the importance of specifying the nature of these values and goals in order to predict individuals' behaviour at work.

2.5.2 Development of the Team Commitment Construct

To expand upon the concept of organisational commitment as a mind set or psychological state, Meyer and Allen (1991) moved away from the attitudinal and

behavioural approaches and put forward an alternative argument, namely the three component model. Meyer and Allen (1991) argued that commitment as a psychological state has at least three separable components namely affective, normative and continuance commitment. The three components reflect a desire (affective commitment), a need (continuance commitment) and an obligation (normative commitment) to maintain employment in an organisation. In a meta-analysis on commitment, Meyer, Herscovitch and Topolnytsky (2002) explain that commitment is a multi-dimensional construct and the antecedents, correlates and consequences of commitment vary across dimensions.

Meyer et al. (2002) found that the three forms of commitment are related yet distinguishable from one another as well as from job satisfaction, job involvement and occupational commitment. As in the model above, all three forms of commitment related negatively to withdrawal cognition and turnover. According to Mathieu and Zajac (1990), organisations value commitment among their employees and this is typically assumed to reduce withdrawal behaviours such as lateness and turnover. According to Meyer et al. (2002), affective commitment had the strongest and most favourable correlations with organisation – relevant and employee – relevant outcomes. Although normative commitment was associated with desirable outcomes these were not strong. Continuance commitment was unrelated, or related negatively to these outcomes (Meyer et al., 2002)

Figure 2.1 summarises the three component model of Meyer and Allen (1991) and shows the antecedent, correlates and consequences of organisational commitment.

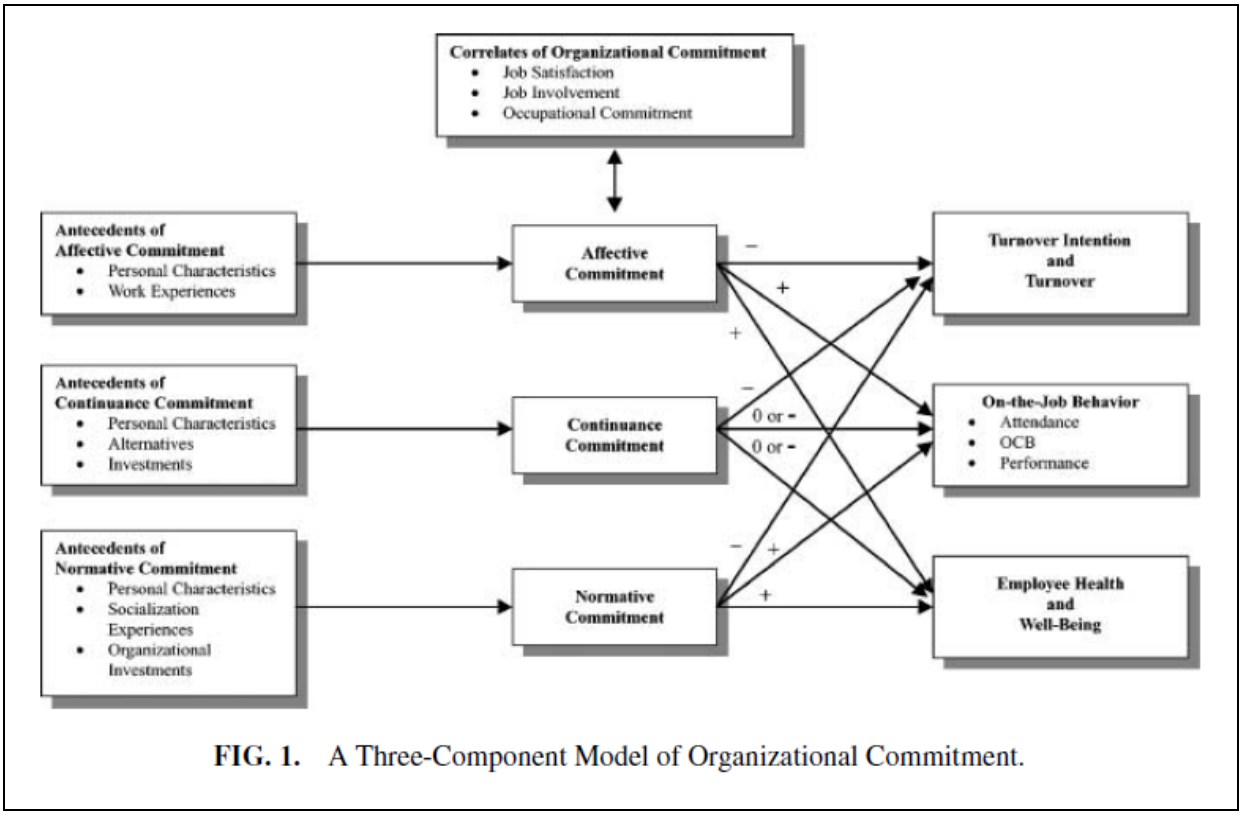

Figure 2.1: Three Component Model of Organisational Commitment (Meyer & Allen, 1991)

According to Meyer and Allen (1997) much of what has been learnt about commitment to organisations can contribute to the understanding of other commitments. In addition, Meyer et al., (2002) explain that a better estimate of the effect of organisational commitment on behaviour is important for future research to examine the additive and interactive effects of the three components. This present study measured team commitment within a South African context.

2.5.3 Current State of Team Commitment

Team commitment is an emerging construct with few empirical studies available. According to Meyer and Allen (1997) commitment, specifically organisational commitment, has been understood as multi-dimensional, able to take many forms and able to be directed to many constituencies within the organisation. Bishop and Scott (1997) highlight the positive effect of commitment on productivity, turnover and employees' willingness to help co-workers. In addition, Schlechter and Strauss (2008) explain that a distinction can be made between the commitment construct

(which is the strength of involvement and identification) and its focus. Meyer and Allen (1997) highlight the importance of distinguishing among these different forms and foci and express the imbalance that exists in studying these different foci and forms.

Evidence regarding the conceptualisation of team commitment (Becker & Billings, 1993; Bishop & Scott, 2000; Dannhauser, 2009; Mathieu & Zajac, 1990; Reichers, 1985; Schlechter & Strauss, 2008), suggests the strong organisational commitment base. According to Meyer and Allen (1997), knowledge on commitment has increased and empirical evidence is mounting. However the meaning of commitment needs to be determined based on the various foci and forms, consequences of commitment need to be highlighted, development of commitment is crucial as well as understanding how commitment is affected by the changing workplace such as global competition, downsizing or reengineering. Studies such as the present study could possibly contribute to the expanding commitment knowledge through empirically testing the variables under study.

Bishop and Scott (2000) explain that organisation (or team) commitment is the relative strength of an individual's identification with, and involvement in a particular organisation (or team). Sheng et al. (2010) found that team commitment would be significantly influenced by perceived team support, teamwork behaviour and trust. Therefore an individual would be more willing to remain and work in a team in the long term. Bishop and Scott (2000) suggest that it may be possible to influence employees' relative levels of commitment to the organisation by manipulating relevant antecedent variables. Hence through enhancing positive relationships in the organisation it is postulated that the intention to quit could be lowered.

2.5.4 Remaining differences of Opinion around Team Commitment

In some studies team and organisational commitment are viewed as similar with a difference in the referent and level of analysis. Schlechter and Strauss (2008) explain that team commitment can be defined in the same way as organisational commitment because teams, as in the case of organisations, develop goals and values that members may accept, may choose to exert varying degrees of effort on the teams' behalf and may have varying levels of desire to maintain their team membership (Becker & Billings, 1993).

Becker (1992) argues that commitment in the workplace should be reconceptualised, multiple foci and bases of commitment be recognised, the organisational commitment questionnaire be used less frequently and the relevance of particular foci and bases should be dependent upon the criterion of interest. As a developing construct team commitment is being conceptualised in various ways. Dannhauser (2009) found that team commitment should be conceptualised as two dimensions of content and context versus the 3 dimensions of Allen and Meyer (1990) of affective, continuance and normative commitment. Hence empirical studies such as the present study could possibly contribute to the understanding of team construct in the workplace.

2.5.5 Value of Studying Team Commitment

Increasing empirical evidence on team commitment is providing insight into the benefits of understanding the construct in the workplace. Mathieu and Zajac (1990) explicate that organisations value commitment among their employees, which is typically assumed to reduce withdrawal behaviours such as lateness and turnover. According to Landy and Conte (2010), modern day organisations are increasingly making use of teams in a bid to save time in performing tasks, promote innovation and creativity amongst employees and integrate information in a way that an individual cannot do. Further, Bishop and Scott (2000) identified relationships that could help explain how individuals may form differential levels of commitment to teams and organisations through the relative strength of an individual's identification with and involvement within an organisation.

According to Ellemers et al. (1998), findings from their study on team commitment in the Netherlands, suggest the importance of assessing commitment to particular work aspects, rather than relying on measures of general organisational commitment, to predict specific behaviour at work. Sheng et al. (2010) provide further evidence on the value of team commitment and argue that it is upon the employees' perception of organisational support that they would establish a trust in the organisation and this would result in behaviours that benefit the organisation.

The measures of team commitment have mostly been adapted from existing organisation commitment measures (Allen & Meyer, 1990; Becker, 1992; Porter, Steers, Mowday & Boulian, 1974). In a study by Becker and Billings (1992), their

findings demonstrated that interpretable patterns of commitment exist and that commitment profiles are differentially related to other attitudes and behaviours in predictable ways. Becker and Billing (1992) further highlight the implication of their findings for the practice of management like organisational development and the control of withdrawal behaviours.

2.5.6 Empirical Studies on Team Commitment

2.5.6.1 Development of Measuring Team Commitment Measure

Team commitment has been measured using several instruments. Several of these team commitment measures have been adapted from existing organisational commitment measures. For the present study team commitment was measured using the Team Commitment Survey (TCS) adapted from the Meyer and Allen (1991) instrument by Bennett and Boshoff (personal communication, 5 November 2003).

Table 2.9 summarises the measurement scales that have been previously utilised to measure team commitment.

TABLE 2.9 Summaries of Team Commitment Measurement Scales

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Team Oriented Commitment Scale *(developed to enable distinction between team oriented and career oriented commitment)*	Ellemers et al. (1998)	• **Team Oriented Commitment Scale** • Adapted from existing commitment measures (Becker, 1992; Blau, 1995, Meyer & Allen, 1991; O'Reilly & Chatman, 1986) • Items rephrased to reflect career and team commitment **Initial Study** • 32 items used in initial study to differentiate between career and team commitment (results not conclusive due to small sample) • 18 work related items issued to participants through online administration • Organisational (affective) commitment – 5 items (selected from a Dutch version of the Meyer and Allen (1991). The same 3 dimension of affective, continuance and normative used • Team commitment – 7 items • Career commitment- 6 items **Final Scales** • Organisational commitment (4 items), α=0.79 • Team oriented commitment (5 items**)**, α =0.72 • Career oriented commitment (5 items), α =0.88

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Team Commitment Shorter version of the OCQ	Bishop & Scott (2000)	• **Team commitment utilised the short version of the Mowday, Steers & Porter (1979) OCQ and changed the referent from organisation to team** • 8 items used • I item deleted on the basis of pilot results and confirmatory factor analysis
Team Commitment Scale adapted from Allen & Meyer (1990)	Bennett (2000)	• **Team Commitment Scale adapted from the Allen and Meyer (1990) organisational commitment scale by Bennett (2000)** • 3 dimensions- affective, continuance and normative commitment • Referent changed from organisation to team • Bennett (2000) added 11 additional items to the 24 items already on the OCS (Allen & Meyer, 1990). They maintained the 3 dimensions as in the original OCS • Instrument empirically tested on the South African population
Team Commitment adapted from Porter et al. (1974)	Pearce & Herbik (2004)	• **Team commitment measure adapted from Porter, Steer, Mowday & Boulian (1974)-** 6 item scale to assess individual's aggregate level of commitment to their respective teams • 6 items measuring the extent to which members care about the team
Team Commitment	Afolabi, Adesina & Aigbedion (2009)	• **Team commitment** • Developed by Afolabi (2004) unpublished PhD Thesis- • 10 item scale

2.5.6.2 Relationship of Team Commitment with Variables not in Present Study

Table 2.10 summarises empirical studies on team commitment with variables that have not been included in the present study.

TABLE 2.10 Summaries of Empirical Studies on Team Commitment

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Bishop & Scott (2000)	• 50 sewing teams from an apparel manufacturing plant located in the south eastern US plus • Team facilitators (1 for every 10 teams) • Sample comprised 485 production employees	• Task interdependence • Inter sender conflict • Resource related conflict • Satisfaction with co-workers • Satisfaction with supervision • Organisational commitment • Team commitment	• **Supported**: direct relationships between the variables hence identifying relationships that could help explain how individuals form differential levels of commitment to teams and organisations • **Not supported**: the relationship between

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
			perceived task dependence and 2 foci of commitment-organisation and team were not significantly different
Ellemers et al. (1998)	• Sample 1 comprised of 690 employed adults in the Netherlands • Sample 2 in Belgium comprised 287 from a large financial services organisation. Sample used to validate questionnaire	• Career oriented commitment • Team oriented commitment • Organisational commitment	• **Supported study 1:** findings support the scales used to measure two different forms of commitment which can be differentiated from organisational commitment. • **Supported study 2:** the distinction between career oriented and team oriented commitment was confirmed
Pearce & Herbik (2004)	• Sample of 71 change management teams from an automotive industry organisation in the US • 197 questionnaires from team members • 40 questionnaires received from team leaders	• Team leader behaviour • Team commitment • Perceived team support • Team size • Team citizenship behaviour	• **Supported:** team leader behaviour, team commitment, perceived team support all had large effects on TCB • **Not supported:** team size had a small to negligible effect
Schlechter & Strauss (2008)	• 25 teams from 6 manufacturing plants within SA • 2 were from the Western Cape, 2 from KwaZulu Natal and 2 from the Free state • 178 completed responses returned	• Leader emotional intelligence • Transformation leadership • Trust • Team commitment	• **Supported:** significantly positive relationships were found amongst all the constructs. • Transformational leadership and leader emotional intelligence were found to be positively related to team commitment • Trust further emphasised the importance of effective leadership behaviour in team dynamics and

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
			performance
Dannhauser (2009)	• 417 sales persons and • 114 sales managers • Sample drawn from a large automobile car retailer and financial services with 100 dealerships widely dispersed across SA	• Servant leadership • Follower trust • Team commitment • Unit effectiveness • Unit performance	• **Supported:** team commitment was empirically and conceptually distinct when compared with the original scales in a non-South African setting • Dannhauser (2009) suggested team commitment could be classified into two categories- content and context commitment thereby changing original structure by Allen and Meyer (1990) • Relationship between trust and team commitment, servant leadership and commitment; and language and religious groups differed in their level of rational commitment and trust
Afolabi et al. (2009)	• 250 oil drilling workers from 25 teams at an oil exploring and drilling company in Nigeria • 250 questionnaires returned for analysis	• Team leadership • Team commitment • Teamwork • Organisational citizenship behaviour	• **1 out of 4 hypotheses supported**: teams with leaders that encourage teamwork would exhibit more teamwork • **3 hypotheses not supported**: team leader behaviour that encourages teamwork and team commitment will not have a significant positive influence or predict TCB or OCB with the same subjects, with the same organisation and for the same period.

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Sheng et al. (2010) 8 item team commitment measure from Bishop & Scott (2000)	• 206 questionnaires returned from teams participating in competitions in Taiwan.	• Teamwork behaviours • Perceived team support • Trust • Team commitment	• **Supported:** teamwork behaviours, trust and perceived team support significantly influenced team commitment, • Teamwork behaviours significantly influenced trust among the members, • Perceived team support significantly influenced teamwork behaviours, trust and team commitment.

2.5.6.3 Relationship of Team Commitment with Variables in the Present Study

Team commitment is an emerging construct and no similar study with variables as used in the present study was found in the literature. This presents an opportunity for the present study to possibly contribute to the expanding team commitment literature using a South African sample in the manufacturing industry. Differences in findings from the application of the TCS in SA, (Dannhauser, 2009; Schlechter & Strauss, 2008) provide a further opportunity to empirically test the portability and stability of the TCS instrument. Furthermore the pattern of relationships between variables under study has not previously been investigated.

2.6 Intention to Quit

2.6.1 Origins of Intention to Quit

The consequence of employee turnover includes the lack of employee continuity and organisational stability, cost of replacing staff ,the high costs involved in the induction and training of new staff, disruption of production schedules and issues of organisational productivity (Calisir, Gumussoy & Iskin ,2011; Kahumza & Schlechter, 2008; Siong et al., 2006). Dating back to earlier theories of turnover (Steers & Mowday, 1981), intentions are perceived as the most immediate determinants of actual behaviour (Firth et al., 2004; Igbaria & Greenhaus, 1992; Maertz & Campion,

2004; Mathieu & Zajac, 1990). Boshoff et al. (2002, p.14) explain that the intention to quit starts with the evaluation by the individual of his/ her current situation, and then he/ she moves through several stages until a firm intention to quit is reached. The final outcome can be a decision to leave the organisation.

The need for organisations to retain employees has spurred the decades of research on turnover. WeiBo, Kaur and Zhi (2010) in their review of turnover literature from 1939 to 2009, explain that from the beginning of the twentieth century, the 1930s was the primary period of turnover thinking. According to WeiBo et al. (2010) the foundation for later construction of employees' retention / turnover theory followed research in areas such as the search for factors that influence employees' turnover such as salary, training, labour market structure, and job opportunities. Dating back to the 1950s, March and Simon (1958) conceptualised the psychological processes with organisational withdrawal and linked the desire to remain in an organisation as largely being the function of job satisfaction.

According to WeiBo et al. (2010), the job- attitude period was mainly influenced by the rapid development of the western economy after the post war rebuilding which led to increased management costs. According to Mowday, Koberg and McArthur (1984), the trend in turnover research moved from simple job attitude- turnover relationships to examine more complex processes associated with the decision to leave an organisation. Price and Meuller (1981) theorised that turnover behaviour is a multistage process that includes attitudinal, decisional and behavioural components. Steers and Mowday (1981) theorised that intention to leave is a function of an interaction between affective responses to a job and non-work influences. Steers and Mowday (1981) also predicted a relationship between intention to leave and an actual search for better alternatives.

Based on the various models of turnover that emerged, Lum, Kervin, Clark, Reid and Sirola (1998), highlight three major determinants of turnover in organisations namely, individual factors, economic opportunity and work related factors. According to Boshoff et al. (2002) intention to quit is usually seen as a dependent variable and is used as an indication of the probability that an employee will leave the organisation in the foreseeable future. Tett and Meyer (1993, p262) suggest that turnover intention should be considered to be a conscious and deliberate decision to leave

the organisation. This is often measured with reference to a specific interval such as (within the next six months) and has been regarded as the last in a sequence of withdrawal cognitions, consisting of a set of thinking of quitting and an attempt to search for alternate employment.

The following section provides further details on the construct development of intention to quit.

2.6.2 Development of Intention to Quit

Tett and Meyer (1993) define turnover intention as a conscious and deliberate wilfulness to leave the organisation. Congruent with other definitions of intention to quit (Boshoff et al., 2002; Cohen, 1993; Steers & Mowday, 1981; WeiBo et al., 2010) intention to quit entails the employee expectation of willingly withdrawing from the organisation where they are currently employed. Firth et al. (2004) argue that once people have actually implemented the behaviour to quit, there is little likelihood of gaining access to them to understand their prior situation.

Research spanning several decades has made attempts to predict the intention to quit as this has generally been understood as the precursor to turnover (Firth et al., 2006; WeiBo et al., 2010). Maertz and Campion (2004) highlight the widely researched 'voluntary turnover' and differentiate between the types of models available. Maertz and Campion (2004) argue that the process models focus on how individuals arrive at their final decisions to quit, while content models focus on why individuals quit organisations. WeiBo et al. (2010) explain that the four sectors involved in traditional turnover research are as follows: firstly the quit process caused by job dissatisfaction. Secondly, employees search for jobs to substitute their current jobs before turnover occurs. Thirdly, evaluation of the jobs that will substitute the current job occurs and lastly the result is occurrence of turnover behaviour.

According to Maertz and Campion (2004), the process models describe how employees become dissatisfied with their jobs, think about quitting, search for better jobs, and then form intentions to quit which result in leaving the organisation. In close alignment, Carmeli and Weisberg (2006) describe three elements in the withdrawal cognition process of turnover intentions, namely thoughts of quitting, the intention to

search for another job elsewhere and the intention to quit but not the element of turnover itself.

The table below summarises some of the major models of turnover and outlines the conceptual definitions proposed

TABLE 2.11 Summary of Conceptualisation of Intention to Quit

Table 2.11 describes the conceptualisation of intention to quit over several decades.

Turnover Theory	Conceptualisation of Intention to Quit/ Turnover
March & Simon (1958)	• Identified the complex psychological processes associated with organisational withdrawal • Introduced labour market and behaviour variables into the turnover process • Divided employee's decision making behaviours into individual's 'Decisions to Perform' organisational activities and 'Decisions to Participate' • Laid foundation for future turnover research
Price (1977)	• Defines turnover as the ratio of the number or organisational members who have left and divided by the average number of people in that organisation during that period • Dependent variable in his causal model is voluntary leaving from an organisation • A negative relationship between age and turnover exists • Interaction between job satisfaction and job opportunities is the immediate antecedent of an employee's leaving an organisation
Mobley (1977)	• Theorised that the intermediate sequential linkages between satisfaction and leaving are: thinking of leaving, evaluation of the expected utility of a search for alternatives, comparison of alternatives and the present job and an intention to leave • Job attitudes are most directly related to withdrawal cognitions associated with the decision to leave and only indirectly related to actual turnover behaviour • Job satisfaction precedes commitment • Theorised that the search processes precede intention to leave
Mobley ,Horner & Hollingsworth (1978)	• Put forward concept of withdraw tendency • Includes thinking of quitting, job searching, intention to turnover and voluntary turnover behaviour occurring
Mobley et al. (1979)	• Commitment is significantly and negatively related to turnover • Identified a large number of labour market, organisational, job and individual variables as part of the leaving process • Various aspects of the work environment (supervision practices and job content factors) influence employees' affective responses (job satisfaction and OC) which in turn may initiate withdrawal cognitions and decision processes that are then related directly to an individual's likelihood of turnover.

Turnover Theory	Conceptualisation of Intention to Quit/ Turnover
Steers & Mowday (1981)	• Provided a comprehensive model that theorised the sequence which leads to employees staying with or leaving the organisation. • Proposed that the immediate antecedent of an employee's leaving is the interaction of the intention to leave and alternative job opportunities • Firstly, job expectations, conceptualised as met expectations and values, influence an individual's affective responses to a job. • Secondly affective responses affect desire and intention to stay or leave with the choice depending on a variety of non-work influences such as spouse's job and time left for the family. • Finally an intention to leave an organisation leads to actual leaving. • Theorised that search processes follow intention to leave • Considered job attitudes other than satisfaction as antecedents to an employee's leaving • Gave emphasis to non-work influences as they affect intentions to leave • Recognised the possibility that disaffected employees may try to change a situation before leaving an organisation
Price & Mueller (1981)	• Expanded on the Price (1977) model • Added the component, intent to stay, and found it to have a huge impact on turnover • Suggests size of the organisation to be included in the causal model because increased size reduced turnover due to more pay, more opportunity for promotion, and increases the extent of participation
Lee & Mitchell (1994)	• The unfolding model, a retrospective, classificatory account of voluntary turnover that treats quitting as a decision process • Emphasises rational choice based on the image theory (Beach, 1990). The person uses three types of images or schematic knowledge structures for decision- making. These relate to values (the decision-makers principles), trajectories (desired goals), and strategies (how to achieve these goals). An option is adopted or rejected depending on its compatibility or fit with subsets of images • Adds concepts of 'shock' and 'script'. Shock is a specific event that prompts people to consider leaving, 'part of an on-going context'. A script is defined as a pre-existing plan of action • Model shows how people leave in different and distinct ways represented by 5 mutually exclusive decision paths. Hence theorising that people quit in 5 prototypical ways. • Dissatisfaction can lead to quitting after search/ evaluation and an offer being received
Kirschenbaum & Weisberg (1994)	• Labour turnover model • Job search and intention to leave a job form an important link in the decision process associated with actual labour turnover • Model suggests a causal path in which 'passive' search occurs before the crystalisation of a turnover intent and after an intent has emerged an 'active search begins • When an active search brings about a coalescence between perceived and accrual opportunities, a job change may occur • Job search and intent are found to be significantly and positively related

Turnover Theory	Conceptualisation of Intention to Quit/ Turnover
Allen & Griffeth (1999)	• Integrated classic organisational equilibrium theory (March & Simon, 1958) and media chain process theory (Mobley, 1977)- called it Integrated multi- routes Model • Discussed relation between employees performance level and their withdraw tendency and proposed three analytical routes • First is the employees' performance character in organisations which will influence their job satisfaction and organisation commitment • Employees' performance character will influence their turnover behaviour through movement in the labour market with a definitive variable of apperceived ease of mobility • Different key degrees of employees' performance in the organisations influencing their turnover behaviour in a more direct way- short circuiting
Lauver & Kristof-Brown (2001)	• Person- Job fit and Person- Organisation fit • Both person- job and person- organisation fit had a unique impact on intention to quit • Person- organisation fit was a better predictor of intentions to quit than was person- job fit • Person – environment has been found to have many befits for employee attitudes and behaviours (Zhang et al. , 2010) •
Maertz & Campion (2004)	• Maertz and Campion (2004) highlight the eight motivational categories or forces of attachment and withdrawal. • The eight categories are: affective forces, contractual forces, constituent forces, alternative forces, calculative forces, normative forces, behavioural forces and moral forces. • Related to the motivational forces of attachment or withdrawal are the decisions that result in the intention to quit or actual turnover. • Maertz and Campion (2004) describe four decision types leading to quitting, namely impulsive quitting based on insufficient attachment; comparison quitting based on availability of another job; pre-planned quitting based on a definitive advance plan; and conditional quitting based on a conditional plan such as gaining required work experience.
WeiBo et al. (2010), (Mitchell et al., 2001)	• Integrated model of Performance- Withdraw Tendency model • Adds elements missing from traditional turnover where focus is on involving different complex psychological and emotional processes coupled with social relations • Job coupling divided into on job coupling and off job coupling • Key structure variables of job coupling are three factors: linkage, fitness and sacrifice • Fitness factor posits that the better the compatibility, the higher the likelihood that an employee will feel professionally and personally tied to the organisation • Linkage factor posits that the higher the number of links between the person and the web, the more an employee is bound to the organisation • Sacrifice factor posits that the more an employee will have to give up when leaving, the more difficult it will be to sever employment with the organisation • Research findings suggest effects of job coupling on employees retention or voluntary turnover are more significant than job satisfaction and organisational commitment

2.6.3 Current State of Intention to Quit

The changing global environment, 'the war for talent' and the measures being utilised by organisations to retain talented employees create a continuous platform for research on intention to quit. The various models that have emerged (WeiBo et al., 2010) suggest that intention to quit is still evolving and the most appropriate models for predicting and reducing turnover intentions are still being sought after. These theorised models as highlighted above require empirical evidence from various samples in terms or culture, organisation, age group, gender and related variables which will contribute to the theoretical and practical application.

Maertz and Campion (2004) differentiation of process and content models of turnover open up a platform for further research to understand how process and content approaches can be integrated and provide meaningful interpretations of the motives for turnover. Replication of some of the intention to quit studies is required to enable generalisability. For instance (Firth et al. ,2004; Siong et al. 2006) empirically tested the influence of job dissatisfaction, lack of commitment to the organisation and job stressors on intention to quit on two different samples. Though the hypotheses were supported, the interactions among the variables differed.

2.6.4 Remaining Differences of Opinion around Intention to Quit

Cohen (1993) argues that withdrawal behaviour should be treated as a multi-dimensional construct versus a uni-dimensional construct. Based on his study in Israel, Cohen (1993) explains that measures of turnover intention do not usually ask respondents about their willingness to transfer within the organisation. Hence this frustration within the current department may be expressed as high turnover intentions rather than a high desire to change jobs within their present organisation. Dating back to earlier theories of intention to leave, Mobley (1977) theorised that search processes precede intention to leave whereas Steers and Mowday (1981) theorised that search processes follow intention to leave.

Several models have been put forward to enable understanding of intention to quit. Many models have been empirically tested but the absence of a standard measure and model suggests differing opinions. WeiBo et al. (2010) states that models such as the person- organisation fit have been widely accepted but still have significant

challenges. Firstly, the over focus on the 'fitness' or 'compatibility' will result in stiffness and lower efficiency, especially during the changing era. Secondly, the challenge rests in making meaningful predictions about outcomes based upon the quality of fit between the characteristics of a person and of an environment. The present study may contribute to the knowledge on antecedents that may predict intention to leave in a South African context.

2.6.5 Value of Studying Intention to Quit

Siong et al. (2006) highlight the importance of identifying the antecedent factors associated with employee turnover in order to assist managers to institute measures to prevent it. However, Firth et al. (2004) argue that though intentions are an accurate indicator of subsequent behaviour, the determinants of such intentions are still not known. In addition, Maertz and Campion (2004) state that little research has been focused on understanding the different motives that systematically relate to different types of decision processes and for certain types of processes to occur more frequently when an employee intends to leave an organisation. Such gaps in turnover literature provide an opportunity for the present study to contribute to the extant literature on turnover within the South African context.

Additional variables are being added to the established models of intention to quit such as the interaction between job coupling and performance as moderators (WeiBo et al., 2010). This enhances the understanding of the construct and studies such as the present one could possibly contribute to the expanding literature through inclusion of positive psychology variables. Another opportunity lies in the empirical testing of intention to quit measures. Portability and generalisability of the measures in a different context and industry will contribute meaningfully to theory and practice. Furthermore, Lee and Mowday (1987) caution against adhoc gathering of empirical evidence on intention to quit but researchers should rather pay attention to the larger network of variables influencing intention to quit. For the present study, intention to quit is being empirically tested within the positive psychology paradigm.

2.6.6 Empirical Studies on Intention to Quit

2.6.6.1 Development of the Intention to Quit Measure

For the present study, intention to quit was measured using Cohen (1993) three item scale which was validated by Hoole (1997) on a South African sample. Hoole (1997) explains that Cohen (1993) three scale items were purported to measure a much broader concept of withdrawal cognition and the three item scale was perceived to be more reliable than only one item. Table 2.12 shows that the majority of intention to quit scales have between one and three items in the measure.

TABLE 2.12 Summaries of Intention to Quit Measurement Scales

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
Intention to Quit- 2 item scale	Hom et al. (1984)	• **Hom et al. (1984)- 2 item scale**
Withdrawal Cognitions- single items	Mowday et al. (1984)	• **Several single item measures of withdrawal cognitions used** • Theoretically similar to Mobey et al. (1978) index of thinking about quitting
Intention to leave- 2 items	Lee & Mowday (1987)	• **2 items assessed intention to leave** • To increase reliability, the two items were averaged
Intention to Quit- 3 item scale	Cohen (1993)	• **3 items following Mobley et al. (1979) definition** • 5 point Likert scale
Intention to Quit	Elanghovan (2001)	• **A modified version of Arnold and Fedman's (1982) measure** • 5 items using a 7 point scale ranging from 1, very low, to 7, very high • Measured both subjects intention to change organisations as well as search for alternatives
Turnover Intentions	Carmeli & Weisberg (2006)	• **Mobley et al. (1978) scale**- same scale was also used by Cohen (1993) • 3 item scale
Turnover Intention- 3 item scale	Cole & Bruch (2006)	• **3 item measure developed by Konovsky & Cropanzano (1991)** • 3 item measure with one item being dropped due to one reverse score item causing unreliability
Turnover Intention Scale	Coyne & Ong (2007)	• **Self-report 3 item scale developed by Camman et al. cited in Chen et al. (1998)** • 3 items in original scale • This study utilised 2 items to improve reliability of the scale • Items answered on a 5 point Likert scale • Items translated into Malay and German. English version also used
Turnover Intentions	Vandenberghe & Bentein (2009)	• Adapted the Hom and Griffeth (1991) and Jaros

Construct Label	Authors and Year	Operationalised Dimension and Measure Used
		(1997) scale- two item scales • Added a third item and alpha reliabilities were .84 in sample 1 and .80 in sample 2
Turnover Intentions Questionnaire – (6 item scale)	DuPlooy & Roodt (2010)	• **Turnover Intentions Questionnaire** developed by Roodt (2004) • Measures employee intentions of either remaining with or leaving an organisation • 6 most reliable items were used in the construction of the distributed survey • 7 point Likert scale
Turnover Intentions- (3 item scale)	McNall, Masuda & Nicklin (2010)	• **Utilised Colarelli's (1984) 3 item scale**
Developed a measure that included Intention to Quit (2 item scale)	Calisir et al. (2011)	• Developed items based on review of the literature • 2 items related to turnover intentions • Scale of 1 – 5 used with 1 being I rarely or never and 5 being very often
Intention to Quit/ Change	Pienaar & Bester (2011)	• Developed for the purpose of the study an **Intention to Quit/ Change Scale** • Intention to Quit scale (4 items) developed to determine whether or not health care professionals would consider leaving the public health sector in the Free State region in SA • Items developed with the assistance of a panel of experts, then tested on a sub- panel to determine if they understood the items • Panel of experts consisted of industrial psychologists, social workers and statisticians from a higher education institution

2.6.6.2 Relationships of Intention to Quit with Variables not in the Present Study

Table 2.13 describes empirical studies on intention to quit and variables not included in the present study.

TABLE 2.13 Summaries of Empirical Studies on Intention to Quit

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Firth et al. (2004)	• Sample of 173 sales people recruited from a clothing section of a large department store in Australia	• Job commitment • Job satisfaction • Stress • Supervisor support • Locus of control • Self esteem • Perceived stressors in the job • Intention to quit	• **Supported**: employees' commitment to the organisation for which they worked, job satisfaction, stress, supervisor support, self-esteem and the perceived stressors in the job accounted for 52% of the variance in intention to quit.

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
Siong et al. (2006)	• 126 call centre representatives recruited from 11 call centres in Melbourne, Australia	• Job commitment • Job satisfaction • Stress • Supervisor support • Locus of control • Self esteem • Perceived stressors in the job • Intention to quit	• **Supported:** model derived from the Firth et al. (2004) study • Interactions between variables differed from the Firth et al. (2004) study • Stressors played a bigger although indirect role in the intention to quit
Kvimaki, Vanhala, Penntti, Lansisalmi, Vitranen, Elovainio & Vahtera (2007)	• 6441 hospital employees in Finland • Had a baseline and follow up study (2 -4 years apart)	• Team climate • Intention to leave • Turnover	• **Supported** improving team climate may reduce intentions to leave and turnover among hospital employees
Coyne & Ong (2007)	• 156 production workers of a large surgical instrument production organisation from three branches in Malaysia, Germany and England • Malaysia sample comprised 85 participants, German sample- 46, England had 25 participants	• Organisational citizenship behaviour • Turnover intention	• **Supported:** all the OCB scales were found to relate significantly negatively to turnover intention with the strongest correlation emerging for sportsmanship • OCB negatively predicted turnover intention • After controlling for demographic factors, OCB related to turnover intentions across cultures and the amount of OCB exhibited is influenced by culture.
DuPlooy & Roodt (2010)	• 2429 respondents from a large South African information and communication technologies sector • Comprised operational and specialist employees up to middle management	• Work engagement • Burnout • Organisational Citizenship Behaviour • Work alienation • Turnover Interventions	• **Supported**: individuals who exhibit work engagement and organisational citizenship behaviour qualities are less likely to experience turnover intentions • Those who exhibit burnout and work alienation symptoms are more likely to experience turnover intentions • Burnout was established as a partial mediator in the work engagement-turnover intention relationship

Study	Sample	Variables in the Study AND Predicted Direction of Relationships	Findings
McNall et al. (2010)	• 220 employed working adults in the US	• Flexible work arrangements • Work family enrichment • Job satisfaction • Turnover intentions	• **Supported:** findings suggest the mediating role of work- to- family enrichment between flexible work arrangement and job satisfaction and turnover intentions
Pienaar & Bester (2011) **(4 item scale)**	• 542 professional nurses employed in selected clinics in the Free State Province , SA	• Burnout • Intention to quit/ change	• **Supported**: findings suggest the higher the level of emotional exhaustion, the higher the degree of intention to quit/ change

2.6.6.3 Relationships of Intention to Quit with Variables in the Present Study

Intention to quit has been negatively related to several work behaviours and attitudes such as job satisfaction and commitment (Cohen, 1993; Hoole, 1997, Kahumza & Schlechter, 2008; Meyer et al., 2002, Vandenberghte & Bentein, 2009). Mathieu and Zajac (1990) state that although organisational commitment has most often been used to predict withdrawal behaviours, the magnitude of these effects was found to be relatively small. Results from the meta- analysis by Mathieu and Zajac (1990) further illustrate that organisational commitment correlates positively with attendance and negatively with lateness. However, much larger correlations were found between commitment and intention to search job alternatives as well as intention to leave one's job.

Meyer et al. (2002) explain that employees with high continuance commitment should intend to remain with their employer to avoid costs associated with leaving, regardless of their level of affective or normative commitment. However, Meyer et al. (2002) caution that the reverse is not true because low levels of continuance commitment should not lead to an intention to leave unless affective and normative commitment are also low.

Hoole (1997) in a study on work commitment utilised a South African sample of 1527 respondents from a large university and a large financial services institution with regional offices and branches throughout SA. In the Hoole (1997) study, intention to quit was measured as a dependent variable. Career commitment were significantly related to job involvement, affective organisational commitment, role conflict and

intention to quit and identified as a predictor of these variables. The findings from the Hoole (1997) study supported the notion that organisational commitment is one of the best predictors of intention to quit.

Additionally, Hoole (1997) revealed that a positive significant relationship existed between role ambiguity, role conflict and intention to quit meaning the higher the perceived role strain the higher the intention to quit. Overall, Hoole (1997) determined relationships between work commitment facets, role strain and intention to quit, a pattern of relationships that had not been previously investigated. Further, Hoole (1997) successfully applied the intention to quit instrument by Cohen (1993) on a South African sample.

Interestingly, a study in a government agency by Clugston (2000) highlights that though commitment negatively relates to intention to quit; normative commitment does not have a significant impact on intent to leave. Additional findings by Clugston (2000) reveal that job satisfaction has a greater direct impact on intent to leave than organisational commitment. The findings from this partially mediated model of multidimensional commitment are important for theory and practice in understanding the employees' state of satisfaction at work and how this could enhance the various components of commitments and affect important organisational outcomes (Clugston, 2000).

Elanghovan (2001), in a study to address the confusion prevailing over the nature of the relationship between satisfaction and commitment in regard to employee turnover, utilised a sample of 155 graduate business students in the US. The findings yielded a strong support for the links between strong causal stress, satisfaction, commitment, turnover intentions link, and turnover intentions to commitment link. Elangahovan (2001) states that the findings of the study indicate that once the employee becomes aware of his/ her intentions to quit, merely changing jobs within the organisation (job rotations, transfers etc) is not likely to stop him/ her, since it is the individual's attitude towards the organisation that is adversely affected. Overall, Elanghovan (2001) argues that findings from the study suggest the complex nature of the relationships among work attitudes and employee turnover intentions.

According to a study by Bentein, Vandenberghe, Vandenberg and Stinglhamber (2005) of a change process, a positive trajectory was observed where an individual intended to quit the organisation. Landy and Conte (2010) explain the honeymoon effect where after a relatively short period of employment with a single organisation, the worker experiences a growing dissatisfaction, eventually leading to a decision to quit. In addition, Bentein et al. (2005) highlighted that a significant association was also found between the change trajectories where the steeper the decline in an individual's affective and normative commitments across time, the greater the rate of increase in that individual's intention to quit, and, further, the greater the likelihood that the person actually left the organisation over the next 9 months.

Carmeli and Weisberg (2006) empirically tested turnover intentions among three professional groups of employees in Israel. The variables measured in this study were affective commitment, job satisfaction, and job performance on turnover intentions across 509 respondents from three professions (lawyers, financial officers and social workers). Carmeli and Weisberg (2006) argue that social workers exhibit lower turnover intentions than financial officers and lawyers, who tend to exhibit higher turnover behaviours. Job satisfaction and affective commitment were negatively associated with turnover intentions, whilst no significant relationship was found to exist between job performance and turnover intentions.

Using three independent samples of employees in Canada (sample 1=172 from a pharmaceuticals company, sample 2=186 from nurses who attended courses in a management programme organised by a nursing school; sample 3= 431 from alumni who graduated from a university located in Belgium), Vandenberghe and Bentein (2009) found that affective commitment to supervisors and to the organisation were significant predictors of turnover intentions. An additional finding by Vandenberghe and Bentein (2009) was that affective commitment to organisations and to supervisors correlated moderately with each other, suggesting that attachments to these foci can act as independent drivers of behaviour. Meyer et al. (2002) has also highlighted the role played by affective organisational commitment in reducing turnover.

In a study by Avey et al. (2009), utilising a US based sample of 416 working adults, their findings supported the hypothesis that PsyCap was significantly and negatively

related to intention to quit. Avey et al. (2009) stated that the implication of this empirical evidence was to propose human resource training that recognised and enhanced positive resources like PsyCap to help employees reduce voluntary turnover. In a meta-analysis of the impact of PsyCap on employee attitude, behaviours and performance, the hypothesis of a significantly negative relationship between PsyCap and intention to quit was supported (Avey et al., 2011).

Suliman and Al-Junaibi (2010) empirically tested commitment (affective and continuance) and turnover intention in the United Arab Emirates (UAE) oil industry. The sample comprised full time employees working for ALPHA GAMMA, an oil company in the UAE, the total respondents comprising 405. The findings from the study indicated a significant negative relationship between organisational commitment and intention to quit. According to Suliman and Al-Junaibi (2010), this suggests the scope for a re-think on various aspects of motivation and what employees perceived as important to them in their work environment. The study also confirmed the multi-dimensional nature of commitment and significantly related to intention to quit.

Calisir, Gumussoy and Iskin (2011) in their study highlighting the high cost of replacing information technology (IT) professionals in Turkey highlight the impact of stressors, job stress, job satisfaction and organisational commitment on intention to quit. Utilising 204 IT professionals, Calisir et al. (2011) revealed that intention to quit was explained by job satisfaction and organisational commitment. Of the two, organisational commitment had the higher direct impact on intention to quit the job. In addition, Calisir et al. (2011) highlight that role ambiguity and job stress also exerted negative indirect effects on the intention to quit one's job.

2.7 Reasons for Doing the Present Study

From the literature review above it is clear that a study that explores the relationships between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit is important in contributing to the extant literature. Using a South African sample, the present study heeds the call for more authentic leaders within twenty-first-century organisations that inspire hope, optimism, resilience and efficacy, through contributing theoretical and practical knowledge of

the POB variables. This process entails testing the portability of the research instruments and investigating the pattern of relationships between the variables under study. Based on the theoretical discussion above, specific research questions were developed. The present study therefore attempted to answer these research questions.

2.8 Research Questions, Hypotheses, Propositions

According to Welman and Kruger (1999), a hypothesis is a tentative or preliminary statement about the relationship between two or more things that needs to be examined. Malhotra (2007) defines hypothesis as an unproved statement or proposition about a factor or phenomenon that is of interest to the researcher. Further, Kerlinger and Lee (2000), outline criteria for good hypotheses and hypotheses statements. Firstly, hypotheses are statements about the relations between variables. Secondly, hypotheses carry clear implications for testing the stated relations.

In addition, Kerlinger and Lee (2000) state three reasons why hypotheses are important and dispensable tools of scientific research. Firstly, hypotheses are working instruments of theory meaning they can be deduced from theory and other hypotheses. Secondly, hypotheses can be tested and shown to be probably true or probably false. Thirdly, hypotheses are powerful tools for the advancement of knowledge because they enable scientists to reach beyond themselves. This means that the values and bias of the researcher cannot interfere with or influence the scientific research process.

According to Kerlinger and Lee (2000), hypotheses should only be stated when experiments are done. The present study, non-experimental in design, put forward propositions as neither experimental manipulation nor random assignment could be applied (Kerlinger & Lee, 2000). Several research questions guided the present study. To explore these research questions, several propositions were put forward and tested as depicted in the theoretical model in Figure 2.4.

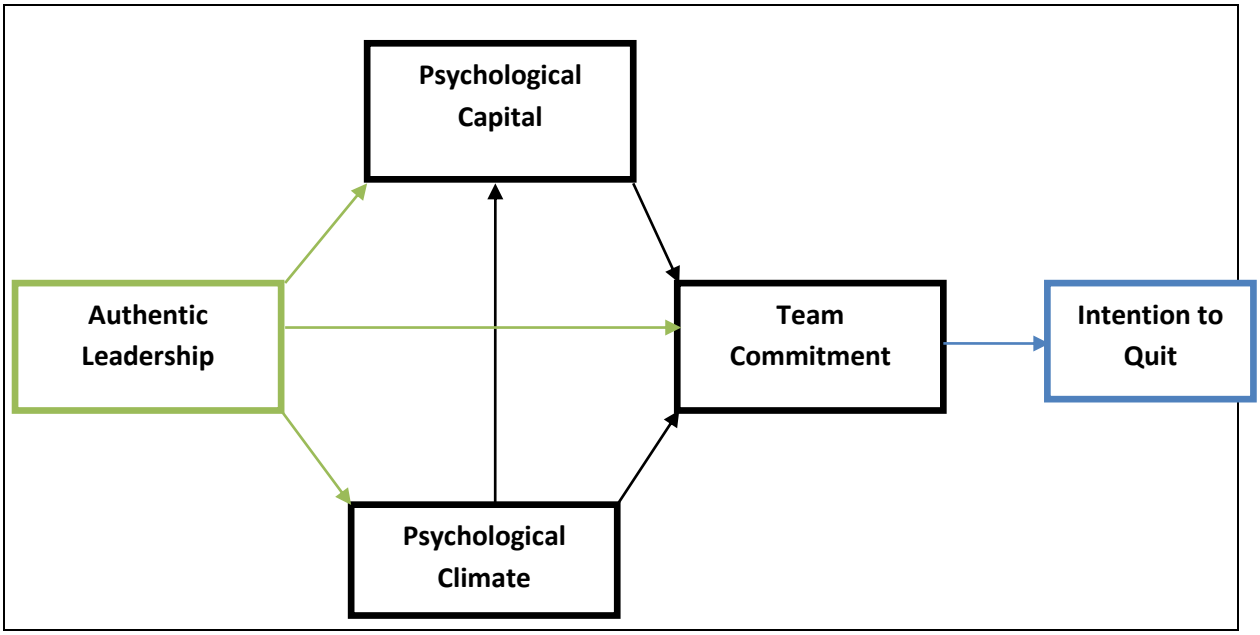

FIGURE 2.2: Theoretical Model of Relationships between Variables

2.9 Development of Research Questions

The theoretical model in Figure 2.4 shows the research questions developed. The argument behind these questions is discussed in the sections that follow.

2.9.1 Portability of Research Instruments

The measurement instruments utilised in the present study were developed in a different cultural context from the present study. Though some of the instruments had previously been utilised in a South African context (PsyCap, Psychological Climate, Team Commitment and Intention to Quit) application in a tyre manufacturing organisation had not previously been done. Confirmatory factor analysis and exploratory factor analysis would be applied on the measurement instruments used in the present study to prove factorial validity and internal reliability.

Confirmation of the applicable factor structure would enable confidence in analysis of data in the present study to determine the relationships that exist between the variables under study. Testing of propositions developed for the present study would also be possible. The biographical information could possibly impact on the perceptions of respondents and the way they respond to the research instruments used in the present study.

Hence to determine the extent to which the data in the present study fits the original structure reliably the following research question was put forward.

Research Question 1a: *What are the content and the structure of the psychometric variables included in the present study and to what degree are the measuring instruments portable to a cultural setting different from the original ones in which the instruments were developed?* (*Proposition 1*)

Research Question 1b: *Will biographical variables influence the perception of all measures (authentic leadership behaviours, psychological capital, psychological climate, team commitment and intention to quit) in the selected South African organisation? (Proposition 1)*

2.9.2 Authentic Leadership and PsyCap

Authentic leaders lead from the front, going in advance of others when there is a risk in doing so (Luthans & Avolio, 2003). They model confidence, hope, optimism and resiliency which inspire others to action. Due to their heightened self-awareness authentic leaders understand what they are capable of accomplishing (Gardner et al., 2005; Luthans & Avolio, 2003). This means that authentic leaders understand their true self and can display authentic behaviours such as being confident, hopeful, optimistic, resilient, transparent, moral or ethical, future oriented, and able to give priority to developing associates to be leaders (Luthans & Avolio, 2003).

According to Luthans et al. (2007a), where authentic leadership behaviours are displayed, followers tend to have a higher PsyCap and are more trusting, consequently facilitating high levels of effective behaviours. According to Gardner et al. (2005), the leader- follower relation is one of the main elements of authentic leadership and it is crucial to collect information about a leader's authenticity both from leaders as well as from followers.

Authentic leadership has been found to enhance group members' performance, psychological capital and trust levels, which in turn affect their citizenship behaviours (Clapp-Smith et al., 2009; Walumbwa et al., 2011). PsyCap has also been shown to significantly correlate with authenticity and transformational leadership (Toor & Ofori, 2010) and evidence of a positive correlation between authentic leadership and PsyCap exists (Caza et al., 2010). Gardner et al. (2011) state that promising findings

such as these, demonstrate the relevance of PsyCap to authentic leadership and the utility of exploring the effects of both constructs on trust and performance.

Based on theory and research on authentic leadership and PsyCap highlighted in previous sections, the following specific research questions have been put forward.

Research Question 2: Will authentic leadership be positively related to psychological capital? (Proposition 2)

2.9.3 Authentic Leadership and Psychological Climate

According to Walumbwa et al. (2008), a critical component of authentic leadership is self-awareness because it demonstrates an awareness of strengths and weaknesses and helps in being true to one self. Through the display of self-awareness by an authentic leader, others in the organisation could be influenced to identify their own strengths and weaknesses. Luthans and Avolio (2003) highlight that in transformational cultures; leader and associate development could be optimised, as the culture would itself be transparent, energizing, intellectually stimulating and supportive of developing leaders and followers to their full potential. This would raise the assumption that such a positive organisational context could result in increased levels of positive psychological climate.

According to Walumbwa et al. (2008), authentic leaders display balanced processing of information, transparency in relationships, and consistency between values, words and deeds which could instil elevated levels of positive psychological climate amongst followers in the organisation. Theory and research suggests that organisation climate or culture may enhance or mitigate perceptions of authentic leadership behaviour (Avolio et al., 2004; Luthans & Avolio, 2003; Walumbwa et al., 2008). Further the effect of authentic leadership on psychological climate could be explored as dimensions of the Koys and DeCotiis (1991) construct investigates how the leader/ boss treat the followers in terms of support, trust, recognition, fairness and innovation.

Using this theoretical background and research findings the following research question was developed.

Research Question 3: Will authentic leadership positively relate to psychological climate? (Proposition 3)

2.9.4 Authentic Leadership and Team commitment

According to Luthans and Avolio (2003), authentic leaders who display ideal behaviours such as confidence, hope, optimism, and resilience inspire others to action. In addition, Quinn, Spreitzer and Brown (2000) argue that such ideal behaviours have been shown to be much more effective in influencing others versus coercing or persuading. Further, Walumbwa et al. (2010) explain that authentic leaders are likely to exhibit enhanced active and adaptive coping skills and are less likely to adopt avoidant coping styles when faced with challenges or setbacks. This would most likely motivate others in the organisation.

Findings from a meta-analysis on organisational commitment by Mathieu and Zajac (1990) suggest opportunities to explore the relationship that exists between leader behaviour and organisational commitment. Mathieu and Zajac (1990) state that results from the meta-analysis and individual studies imply that the influence of leader behaviours is likely to be moderated by other factors, including subordinate characteristics and aspects of the work environment. The present study utilises team as the referent for commitment but follows the same commitment structure as proposed by Meyer and Allen (1991) of affective, continuance and normative commitment.

Using this theoretical background and research findings the following research question was developed.

Research Question 4: Will authentic leadership positively relate to team commitment? (Proposition 4)

2.9.5 Psychological Climate and PsyCap

For the present study the Koys and DeCotiis (1991) instrument was tested in the South African context using POB variables. According to Clissold (2006), the way in which an individual understands or 'knows' his/ her environment is a cognitive construction subject to filtering, abstraction, generalisation and interpretation. Walumbwa et al. (2010) explain that within a positive climate, higher levels of

psychological capital should facilitate a stronger motivational force aimed at the successful accomplishment of goals and tasks which should lead to desired performance outcomes.

A proposal brought forward by Luthans et al. (2008) states that PsyCap cannot operate in a vacuum and needs to have a supportive organisational climate in order to play a role. According to Clissod (2006), psychological climate emphasises a value laden perspective of the organisation that encompasses issues or characteristics the individual considers as psychologically meaningful. This means that the psychological climate variable will impact on the extent to which the individual engages or disengages with their workplace. The present study postulates that a positive psychological climate will positively influence the PsyCap of individuals in the organisation.

With this theoretical background the following research question was developed:

Research Question 5: Will psychological climate positively relate to psychological capital? (Proposition 5)

2.9.6 PsyCap and Team Commitment

According to a meta-analysis by Avey et al. (2011), findings suggest that PsyCap comprised of hope, optimism, efficacy and resilience, is positively related to desirable employee attitudes and negatively related to undesirable employee attitudes. Team commitment described by Pearce and Herbik (2004) is the psychological attachment that the members feel toward the team. Similar to organisational commitment, the referent changes from organisation to team. According to Bishop and Scott (2000) commitment in the workplace is multi-dimensional and the focus of commitment, which is to who or what an employee is committed, is an important dimension in assessing worker attachment (Becker, 1992).

Becker and Billings (1993) support this notion by stating that higher levels of commitment have positive implications for organisational outcomes while lower levels have negative implications. Avey et al. (2011) argue that PsyCap may be related to commitment to the organisation because the organisation (as a referent)

fulfils needs for efficacy and accomplishment for those high in PsyCap. This would also influence the extent to which they engage in the workplace.

Within the context of a team, a similar argument follows where the assumption is that increased levels of positive PsyCap will positively influence levels of team commitment. Bishop and Scott (1997) explain that task interdependence and satisfaction with co-workers has positive influences on team commitment. This is a result of the high degree of self-determination in managing work. This could be linked to efficacy in PsyCap where the effect of PsyCap on employee attitudes is that those higher in PsyCap believe they create their own success (efficacy and hope) (Avey et al., 2011).

Within this background, the following research question is put forward:

Research Question 6: Is there a positive relationship between psychological capital and team commitment? (Proposition 6)

2.9.7 Psychological Climate and Team Commitment

In the present study psychological climate aims to understand the employee's perceptions of the work environment in which the work behaviour occurs (Tordera et al., 2008). This entails exploring dimensions of autonomy, cohesion, trust, pressure, support, recognition, fairness and innovation (Koys & DeCotiis, 1991). In this study team commitment was measured as the psychological attachment that the members feel toward the team (Pearce & Herbik, 2004). The three component model of commitment by Allen and Meyer (1991) was utilised in the present study. The assumption is that employees with strong affective commitment remain because they want to, those with strong continuance commitment because they need to, and those with strong normative commitment because they feel they ought to do so (Allen & Meyer, 1990).

Previous research has highlighted varying antecedents of commitment which have included personal characteristics, role states, job characteristics, and group / leader relations such as group cohesiveness, leader consideration, participative leadership and organisational characteristics (Mathieu & Zajac, 1990; Meyer et al. 2002). Some of these antecedents form part of the psychological climate construct (Koys &

DeCotiis, 1991) such as cohesion, autonomy and innovation. Within this background the following research question is put forward:

Research Question 7: Will psychological climate positively relate to the level of team commitment? (Proposition 7)

2.9.8 Authentic Leadership, Psychological Climate, Psychological Capital, Team Commitment and Intention to Quit

From the definition of psychological climate by Koys and DeCotiis (1991), the primary function of psychological climate is to cue and shape individual behaviour towards the modes of behaviour dictated by organisational demands. Within team commitment, Becker and Billings (1993) explain that the employees' profile of commitment is the degree to which he or she is committed to the various foci such as supervisor, team, department, function and organisation that exist in the work environment. In addition, findings from a study investigating intention to quit in a call centre by Siong et al. (2006) suggest that understanding the aspects of the work environment which may cause stress was found to be significant.

Schaufeli and Bakker (2004), elucidate that engaged employees are likely to have a greater attachment to their organisation (team) and a lower tendency to leave their organisation. Avey et al. (2011) highlight the considerable scientific evidence of PsyCap on desirable employee attitudes, behaviours and multiple measures of performance. Significant negative relationships between PsyCap and undesirable employee attitudes such as turnover intentions were also established (Avey et al., 2011).

The variables in this study are therefore important in attempting to predict the employees' intention to quit. The psychological climate will indicate the perception the individual has of the organisation while the psychological capital will outline the level of hope, optimism, resilience and efficacy. The level of team commitment will also be important in attempting to predict whether an employee will stay or leave the organisation. According to Saks and Ashforth (2000, p. 43), one of the most important findings related to understanding work behaviour is that individuals react differently to similar circumstances, and to understand and predict behaviour in organisational settings one needs to consider both person and situational factors as

well as their interaction. Within this background the following research question is put forward:

Research Question 8: Will authentic leadership, psychological capital, psychological climate and team commitment negatively relate to employees' intention to quit the organisation? (Proposition 8)

2.9.9 Model Building: Authentic Leadership, Psychological Climate, Psychological Capital, Team Commitment and Intention to Quit

From the preceding discussion of variables utilised in the present study and the relationships that are believed to exist between them, a proposed conceptual model was developed. The proposed conceptual model is the culmination of the various arguments put forward in terms of the relationships that exist between the variables.

Within this background the following research question is put forward:

Research Question 9: Can a model of sequential relationships among the measures of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit be successfully built? (Proposition 9)

2.10 Research Propositions

From the research questions developed above, several propositions were put forward for empirical testing. The present study utilised a correlational design and multiple measures applied to test the relationships between the variables under study. The research propositions are outlined below:

2.10.1 Proposition 1

- The content of the constructs used in the present study will be comprehendible to the content identified by the developers of the research instruments.
- The factor structures that emerge from the present study will be interpretable and understandable in a different cultural setting from the one where each of the research instruments were developed.

- The biographical variables in the present study will influence the perception of all measures (authentic leadership behaviours, PsyCap, psychological climate, team commitment)

2.10.2 Proposition 2

- A significant positive relationship exists between authentic leadership behaviours and follower psychological capital.

2.10.3 Proposition 3

- The perceptions by followers of leaders exhibiting authentic leadership positively relate to the followers' perceptions of psychological climate in the organisation.

2.10.4 Proposition 4

- There is a significant positive relationship between authentic leadership and the level of team commitment.

2.10.5 Proposition 5

- Positive perceptions of psychological climate positively relate to psychological capital.

2.10.6 Proposition 6

- There is a significant positive relationship between psychological capital and the level of team commitment.

2.10.7 Proposition 7:

- There is a significant positive relationship between psychological climate and the level of team commitment

2.10.8 Proposition 8

- Authentic leadership, psychological climate, psychological capital and team commitment will be negatively related to intention to quit.

2.10.9 Proposition 9

- A proposed model describing the relationships between authentic leadership, psychological climate, psychological capital, team commitment and intention to quit will produce a good fit with the data.

2.11 Chapter Summary

Chapter 2 summarised the literature in line with the positive psychology framework. Authentic leadership, PsyCap, psychological climate, team commitment and intention to quit were discussed. From the literature review above, objectives of the present study were developed. A proposed theoretical model of the pattern of relationships between the variables was presented and related research questions put forward. The chapters will discuss the follow: Chapter 3 will discuss the method used in the study, Chapter 4 presents the findings and Chapter 5 concludes the study through discussion of the results, highlighting theoretical and practical implications.

Chapter 3: Methodology

3.1 Introduction

This chapter outlines how information was gathered and analysed on the constructs measured in a South African manufacturing organisation. The description of the sample in the present study, detail on the research organisation, and research design utilised is discussed below.

3.2 Overview of Research Design

The present study aimed to determine the relationships that existed between the variables of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit. Understanding how these variables relate can possibly assist in the application of positive psychology in the South African workplace. The aim of the study design was to enable collection of empirical evidence that would determine whether the research propositions stated in chapter two could be confidently accepted or rejected. The study was intended as a correlative ex post facto research which involves observing the independent and dependent variables across individuals to establish the extent to which the variables co-vary (Babbie & Mouton, 2001). This approach does not imply causality but attempts to discover the extent to which the variables relate (Babbie & Mouton, 2001).

Grounded within the positivistic paradigm, data was collected utilising the survey research approach. According to Kerlinger and Lee (2000), survey research falls under non- experimental scientific inquiries aimed at discovering the relations and interactions among sociological, psychological, and educational variables in real social structures. Kerlinger and Lee (2000, p558) define non-experimental research as ‘systematic inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables’.

According to Babbie and Mouton (2001), positivism emphasises the search for universal laws of human behaviour, quantification in measurement, and a definition of objectivity which requires a distance between the researcher and the research subjects. In addition, Jonker and Pennink (2010) state that positivism asserts that the only authentic knowledge is that which is based on sense, experience and positive verification. Congruent with the assumptions of the positivistic paradigm, Kerlinger and Lee (2000) describe the quantitative approach as assuming knowledge comes from observation of the physical world, the investigator makes inferences based on direct observations and the goal is to describe cause and effect.

According to Mouton (2001), the conceptualisation or mode of reasoning of survey research can either be theory driven (analytical surveys) and aim to test hypotheses, or much more inductive and a-theoretical (exploratory studies, pilot studies). The present research is exploratory and findings from the present study can possibly contribute to insights of POB in a South African context.

3.3 Sample Design and Participants

3.3.1 Research Participants

The study was carried out in a large multi- national manufacturing organisation with a strong focus on tyre manufacturing. The organisation under study has been in existence for several decades and is part of a global organisation and one of the leading automotive suppliers with a presence in Africa, Asia, Australia, Europe, Middle and South America, USA and Canada. The global company produces a wide range of products and the SA operation specifically produces vehicle tyres. At the time of the study, the SA operation based in Port Elizabeth, had approximately 1800 employees.

The organisation has two main operating divisions, namely manufacturing which has the largest concentration of employees, and a smaller division of sales and marketing. Within these two broad categories are operational divisions like Finance and Information Technology, Manufacturing, Sales, Marketing and Human Resources. Within each division are managers at senior, middle and junior management level. Managers at the entry/ junior level include team leaders,

supervisors and shift coordinators. For the purposes of the present study, reference will be made to the two main operating divisions of manufacturing and sales and marketing.

The potential population utilised in the present study consisted of managers in the junior to senior management level across all divisions in the organisation. Two main reasons existed for selecting this specific employee category. Firstly, the respondents had to rate their leader in terms of the authentic leadership behaviours being displayed. Furthermore other items used in the self-report measures related to the relationship with the leader. The assumption was that the targeted respondents in the junior to senior management position could identify someone in the organisation as being their leader, was in most instances the immediate supervisor/ manager.

However, the research organisation also utilises multiple reporting structures across functions through application of the mission directed work teams approach. According to Schlechter and Strauss (2008), such teams are an organisation wide organisational development intervention aimed at achieving high and continuously improving levels of quality, speed, cost and morale through the use of team based structures and processes. In instances where the respondent had more than one leader, the instruction was to choose the leader with whom the respondent had most direct contact in the workplace.

Secondly, the comprehension level of items in the measures utilised in the present study required an individual with a minimum level of a high school qualification. According to Erasmus, Loedolff, Mda and Nel (2010), approximately 27% of South Africa's economically active population are illiterate, having a maximum of a Grade 5 qualification or even no schooling at all. Furthermore, Erasmus et al. (2010) state that the Eastern Cape and Limpopo provinces in SA have the largest rural population and the lowest literacy levels. The present study was conducted in the Eastern Cape.

Against this background, a decision was taken to only focus on junior to senior management levels. The assumption was that employees in this level would at least have a secondary/ high school qualification which would enable them to comprehend the questions in the measurement instruments. In addition, guidance from the EXCO

based on an annual survey on organisational climate conducted in the research organisation indicated that the junior to senior management levels were the more appropriate levels to target for data collection in terms of accurate interpretation of survey instruments.

3.3.2 Sample Size

Kerlinger and Lee (2000) recommend the use of as large a sample as possible, as the likelihood of detecting relationships is more likely in larger than smaller samples. According to Hair, Black, Babin and Anderson (2010) the general rule in sample size is to have at least five times as many observations as the number of variables to be analysed, and the more acceptable sample would have a 10:1 ratio.

Based on the guideline provided by Hair et al. (2010) and to justify the use of multivariate statistical procedures the sample used in the study had to be more than 200 participants. Utilising a purposive sample, the 326 employees in junior, middle and senior management were approached to participate in the study. 205 completed questionnaires were returned, one of which had to be discarded due to incomplete sections resulting in 204 usable questionnaires for the present study.

Table 3.1 summarises the approximate number of employees per management level at the time of the study:

Table 3.1: Number of possible respondents by management level

Management Levels within Organisation	Possible Respondents	Actual Responses Received
Middle management level(*reports to Senior Management level*) • Human Resources (3 middle managers) • Finance and IT (3 middle managers) • Manufacturing (5 middle managers) • Sales (5 middle managers) • Marketing and Original Equipment Supply (2 middle managers)	338	**205**
Junior Management level (*reports to middle management level*) • This level includes team leaders, supervisors and shift coordinators		

The following section outlines the demographic characteristics of the sample used in the present study.

3.3.3 Demographic Characteristics

Table 3.2 shows the demographic characteristics of the respondents. Some respondents did not complete all the sections required for demographic variables.

Table 3.2: Demographic Characteristics

Variable	Mean	Range	Standard Deviation
Tenure (Months) (n=189)	164.593	495.00	114.114
Age (Years) (n=192)	40.974	44.000	10.069
DEMOGRAPHIC VARIABLES: SUMMARY			
Reporting Unit (n=162)	**Number**	**% (n=162)**	
Manufacturing	121	74.7%	
Sales and Marketing	41	25.3%	
Gender (n=203)	**Number**	**% (n=203)**	
Male	149	73. 4%	
Female	54	26.6%	
Home Language (n=190)	**Number**	**% (n=190)**	
Afrikaans	71	37.4%	
English	79	41.6%	
isiXhosa	32	16.8%	
Other (South Sotho, Chinese)	8	4.2%	
Marital Status (n=200)	**Number**	**% (n=202)**	
Single	54	27%	
Married	122	61%	
Divorced	14	7%	
Widowed	5	2.5%	
Cohabiting	5	2.5%	
Population Group (n=197)	**Number**	**% (n=197)**	
Black	39	19.8%	
Coloured	28	14.2%	
Indian	6	3%	
White	122	61.9%	
Other (Asian, Chinese)	2	1%	
Highest Qualification (n=197)	**Number**	**% (n=197)**	
Grade 10/ Std 8	29	14.7%	
Grade 12/ Matric	58	29.4%	
Post Matric	17	8.6%	
Diploma	56	28.4%	
B. Degree	25	12.7%	
Honours/ Masters	12	6.1%	

Table 3.2 shows that most of the single group responses were from respondents who were: white, male, spoke either English or Afrikaans, were married and had a Grade 12/ Matric qualification or a diploma. In terms of tenure the average respondent had been with the organisation for approximately 164 months/ 13 years.

The average age of the respondents in the present study was 40 years. The majority of respondents were from the manufacturing division which is congruent with the organisational structure where a smaller proportion of employees are in the sales and marketing division. Attempts were made to ensure representation of the population in the divisions and composition of the sample seems to be representative of the actual organisation in terms of demographic variables.

3.4 Measuring instruments

3.4.1 Composite Questionnaire

Data gathering was done by means of a composite questionnaire in which several measures were combined. The unit of measurement for the present study was the individual. The respondents had to rate their leader, rate their own commitment to their team and provide a self-report on measures of PsyCap, psychological climate and intention to quit. The first part of the questionnaire comprised of demographic variables such as reporting unit, tenure in the organisation, age of respondent, gender, home language, marital status, population group and highest educational qualification obtained. This information was important for determining relationships and identifying differences amongst variables used in the study. The other sections of the composite questionnaire comprised measures of authentic leadership (Walumbwa et al., 2008), PsyCap (Luthans et al., 2007b), psychological climate (Koys & DeCotiis, 1991), team commitment (Bennett, 2000) and intention to quit (Cohen, 1993).

The original measures used in the study were available in English. For the present study, the composite questionnaire was administered in English, the official business language used in the research organisation. Another reason for utilising an English questionnaire and not translating it into the other languages commonly spoken by employees in the research organisation was the limitation in terms of research resources such as funding and time.

Prior to commencing the research process, a pilot study utilising a similar demographic sample was carried out to detect possible flaws in the measurement procedure. This included checking the instructions and determining the approximate

duration taken to complete the composite questionnaire. The pilot study was also intended to enable identification of items that were unclear or where the content was not recognisable in the SA context. The measures used in the present study were developed in the US and interpretation of items could be different in another cultural context. The pilot study was conducted over three days and adjustments to the research instrument were made afterwards.

Feedback from the pilot study resulted in minor definitions being included in a few of the items in the PsyCap measure (Luthans et al. 2007b) and the psychological climate measure (Koys & DeCotiis, 1991). This was done to enable understanding of the US terms that were perceived as unfamiliar amongst SA respondents and maximise accurate responses from respondents. Apart from the additional definitions included on specific items, the composite questionnaire was developed using the original measures as developed in the US.

Table 3.3 summarises the sections that made up the composite questionnaire which was divided into six sections:

Table 3.3: Summary of Composite Questionnaire

Composite Questionnaire	Number of Items	Description of Demographic Categories	
Section 1: Demographic Section	8 items	• Reporting unit • Tenure in the organization • Age • Gender • Home language • Marital status • Population group • Highest educational qualification obtained	
Measurement Instrument	**Number of Items**	**Number of Sub Scales**	**Names of Sub Scales**
Section 2: Authentic Leadership	16	**4**	• Transparency • Moral • Balanced Processing • Self-Awareness
Section 3: Psychological Capital	24	**4**	• Efficacy/ Confidence • Hope • Resiliency • Optimism

Composite Questionnaire	Number of Items	Description of Demographic Categories	
Section 4: Psychological Climate	40	**8**	• Autonomy • Cohesion • Trust • Pressure • Support • Recognition • Fairness • Innovation
Section 5: Team Commitment	35	**3**	• Affective Commitment • Continuance Commitment • Normative Commitment
Section 6: Intention to Quit	3	0	
TOTALS	**118**	**19**	

The detailed explanation of the measures utilised in the composite questionnaire are explained in more detail in the following sections.

3.4.2 Authentic Leadership

According to Walumbwa et al. (2008) authentic leadership is composed of related and substantive dimensions that are necessary for an individual to be considered an authentic leader. The authentic leadership variable was measured using the Authentic Leadership questionnaire (ALQ) developed by Walumbwa et al. (2008). According to Walumbwa et al. (2008), deductive and inductive approaches for item generation were used to assess how leaders exhibit or demonstrate authentic leadership.

Content specifications were developed based on an extensive review of the literature on authentic leadership theory and development, from recently completed dissertations on authentic leadership and also from discussions with a leadership group which comprised of faculty and graduate students who focused on what constitutes authentic leadership and its development.

Based on the perspective of the self-determination theory (Ryan & Deci, 2000), Walumbwa et al. (2008) combined internalised regulation processes and authentic behaviour into an internalised moral perspective for purposes of theoretical parsimony. According to Avolio and Walumbwa, (2012), both concepts are

conceptually equivalent because both involve exhibiting behaviour that is consistent with one's internal values and standards.

Walumbwa et al. (2008) explain that internalised moral perspective involves a leader's inner drive to achieve behavioural integrity which is consistency between values and actions. Initial conceptualisations of authentic leadership were composed of five distinct but related substantive components- self-awareness, relational transparency, internalised regulation which is authentic behaviour, balanced processing of information and positive moral perspective (Walumbwa et al., 2008).

To assess the adequacy of these categories an independent group of leadership scholars and graduate students were asked to further define these construct domains and to generate items for each of the five components (Avolio & Walumbwa, 2012). Initially Walumbwa et al. (2008) derived 35 items which were later refined to 22 items. The items that were retained following content validity assessment represented: self-awareness (4 items), relational transparency (5 items), internalised moral perspective (4 items) and balanced processing (3 items).

Their responses were content analysed and the emergent categories closely matched those described above providing initial evidence of the multi-dimensionality of the authentic leadership construct (Walumbwa et al., 2008). The next step examined the extent to which the four domains distinguished authentic from ethical and transformational leadership by extensively reviewing the literature on these two leadership concepts (Walumbwa et al., 2008).

To empirically test the new factor structure of the 16 item ALQ, Walumbwa et al. (2008) conducted a confirmatory factor analysis using two independent samples from the US and the People's Republic of China. The US sample consisted of 224 full time employees from a large high tech manufacturer based in the north-eastern part of the country who rated their immediate supervisors on authentic leadership behaviours. Three different factor structures were compared using the US sample.

According to Walumbwa et al. (2008), the one factor model comprised all 16 items which were indicative of a larger authentic leadership factor. The second was a first-order factor model in which items were allowed to load onto their respective factors of self-awareness, relational transparency, internalised moral perspective and

balanced processing. The third was a second order factor model in which items were loaded onto their respective factors and the four factors loading on a second order latent authentic leadership factor.

Walumbwa et al. (2008), explain that the best fit was the second order factor model, while the worst fitting model was the one factor model due to relatively poor fit indices. The internal consistency alphas for the second order factor model were at acceptable levels as follows: self-awareness, .92; relational transparency, .87; internalised moral perspective, .76 and balanced processing, .81. Findings from this sample confirmed the higher order factor model of authentic leadership based on the US sample. To test the reliability and factor analytic structure of the ALQ, Walumbwa et al. (2008) utilised a Chinese sample. The Chinese sample consisted of 212 full time employees from a large state owned company located in Beijing. According to Walumbwa et al. (2008), the ALQ was developed in English and translated into Chinese for the Chinese sample.

Prior to the confirmatory factor analysis, Walumbwa et al. (2008), assessed the extent to which the higher order authentic leadership construct was invariant across the US and China. Their findings suggest that the measurement models were not statistically significant. Walumbwa et al. (2008) therefore concluded that all factor loadings, variances, error covariances and the covariance, are invariant across the US and Chinese samples.

Having established the invariance of the higher order factor structure across the two samples, Walumbwa et al. (2008) compared the fit of the three factor structures as done with the US samples. The best fitting model was the second order factor model with internal consistency alphas being acceptable as follows: self-awareness, .79; relational transparency, .72; internalised moral perspective, .73; and balanced processing, .76.

Based on the results of the US and Chinese samples, Walumbwa et al. (2008), concluded that there is substantial convergent validity among the four measures of ALQ and that the four factors of self-awareness, relational transparency, internalised moral perspective and balanced processing are not independent and that a single second order factor accounts for this dependence. Though the Chinese sample comprised considerably younger participants with less work experience, less

education and who were more likely to be female, Walumbwa et al. (2008) highlight that no significant differences were found between the Chinese and US samples. Walumbwa et al. (2008) conducted a second study and followed a construct validation process as follows: demonstrating dimensionality and internal consistency, demonstrating further convergent validity by showing positive correlations with alternative measures of similar constructs (ethical leadership and transformational leadership) and demonstrating discriminant and predictive validity.

The responses on the ALQ were anchored on a four point Likert scale: 0 = not at all; 1= once in a while; 2 = sometimes; 3 = fairly often; 4 = frequently if not always. Some sample items from the ALQ (Walumbwa et al., 2008) are as follows: my leader tells you the hard truth (*transparency*); my leader makes decisions based on his or her core values (*moral/ ethical*); my leader analyses relevant data before coming to a decision (*balanced processing*); my leader accurately describes how others view his or her capabilities (*self-awareness*).

3.4.2.1 Validation Samples Used for the ALQ

To validate the authentic leadership measure, Walumbwa et al. (2008) utilised two independent samples from a large South-western US university over a span of two semesters. The samples comprised MBA and evening adult students who were employed (178 participants –sample 1) and (236 participants-sample 2). All the internal consistency measures were above, .70 and findings from the study by Walumbwa et al. (2008) revealed positive relationships between authentic leadership, ethical leadership and transformational leadership. In addition, a series of confirmatory factor analyses by Walumbwa et al. (2008) provided consistent support for a higher order, multi-dimensional model of authentic leadership that encompasses the four components described above.

In a third study conducted in Kenya, Walumbwa et al. (2008) empirically tested the relationship between authentic leadership, follower job satisfaction and individual job performance. The Kenyan sample consisted of 478 working adults from diverse US multinational companies operating in Kenya. Data was collected at two points over a 6 week period. Data collected from the Kenyan sample confirmed that the authentic leadership model was a good fit with high internal consistency measures as follows: self-awareness: .73; relational transparency, .77; internalised moral perspective, .73;

and balanced processing, .70. The ALQ was applied in English as this is the official language of Kenya. According to Walumbwa et al. (2008), the measurement model was tested using CFA and the results were consistent with theoretical predictions.

Through development and testing of the authentic leadership measure, Walumbwa et al. (2008) concluded that the four factors of self-awareness, relational transparency, internalised moral perspective and balanced processing are not independent and that a single second order factor accounts for this dependence. Avolio and Walumbwa (2012) highlighted that future research may use fewer items to reflect each component construct but in combination these four components would still represent authentic leadership.

The absence of distinct differences between the Chinese and US sample supported the notion of authentic leadership as a higher order construct (Walumbwa et al., 2008). Furthermore, Walumbwa et al. (2008) argue that the basic factor structure of the ALQ held up across the Chinese, Kenyan and US settings, suggesting that the core components of authentic leadership may generalise across cultural contexts.

3.4.2.2 Factor Structure of ALQ as used in the Present Study

The ALQ was subjected to psychometric investigation to determine its suitability in the present study. Further details of the analyses will be explained in chapter four.

3.4.2.3 Studies Using the ALQ

According to Clapp- Smith et al. (2009) findings from their study in a US retail chain store retained the same psychometric as developed by Walumbwa et al. (2008). The internal reliability for the ALQ scale and sub scales in their study was above 0.70 and demonstrated as adequate. From their data, items loaded significantly on their respective factors. The data was collected and analysed at the group level. Biographical data in the study included age, tenure, gender, and role in the organisation. The composite questionnaire used comprised of the measures of ALQ, PsyCap and trust in management. The sales data was gathered and tracked over a 4 month period.

Walumbwa et al. (2011) applied the ALQ to a sample of 146 intact work groups in a large US bank. The participants rated the authentic leadership characteristics of their

supervisor and the Cronbach alpha co-efficient for the full ALQ scale in the study was .83. Confirmatory factor analyses conducted for this study revealed that authentic leadership was distinct from transformational leadership. The composite questionnaire utilised in the study consisted of biographical measures of age, gender, population group and educational qualification.

The constructs being measured were transformational leadership, group trust, collective psychological capital, group job performance, and group citizenship behaviour. The four factor structure of authentic leadership (Walumbwa et al., 2008) was retained in the study. The standardised path coefficients emerging from the data in the Walumbwa et al. (2011) study demonstrated a good fit to the data (RMSEA=.05; CFI=.97; $x2$=295.46; df=128; p<.01). Further results from the structural equations modelling indicated significant positive links from authentic leadership to collective psychological capital and group trust (Walumbwa et al., 2011).

After a study of working adults in New Zealand, Caza, Bagozzi, Woolley, Levy and Caza (2010) state that the four factor authentic leadership structure by Walumbwa et al. (2011) was maintained. Confirmatory factor analysis was utilised to investigate convergent and discriminant validity and the data fit the model well. Model equivalence was therefore attained in New Zealand and Caza et al. (2010) concluded that application and interpretation of the ALQ in New Zealand was the same when compared to samples in the US and in China. Additional findings by Caza et al. (2010) suggest that differences between genders were not detected when measured with the ALQ. The composite questionnaire comprised of the ALQ and the PsyCap measures and these items were presented in a fully randomised order meaning not grouped by first order factor.

3.4.3 Psychological Capital

Although PsyCap is not a new term in literature searches, it has been theoretically and empirically demonstrated to be a measurable second-order, core construct that accounts for more variance in employee performance and satisfaction than the four positive constructs that make it up (Luthans et al., 2007a). The four POB criteria

meeting constructs of efficacy, hope, optimism and resilience synergistically coalesce into the core factor of PsyCap that goes beyond what has been commonly portrayed in the human resource management literature as human capital (Luthans, 2004; Luthans & Youssef, 2004).

Due to the relevance of the scale to the workplace, Luthans et al. (2007b) measured self-efficacy using Parker's (1998) Role Breadth Self Efficacy (RBSE). Parker (1998) highlighted that the RBSE measure should continue to be tested in other organisations to ascertain the generalisability of the findings. To measure hope in the workplace, Luthans et al. (2007b), utilised the 'State Hope Scale' (Snyder et al., 1996). Similar to the RBSE, the hope scale was relevant to the workplace and Snyder et al. (1996) explained that the 'State Hope Scale' offered a brief, internally consistent and valid self report measure of ongoing goal directed thinking that may be useful to researchers and applied professionals.

To measure optimism and resilience, Luthans et al. (2007b) utilised scales more widely used in clinical and developmental psychology (Masten, 2001, Seligman, 1998). Resilience was measured using 6 items from the Wagnild and Young (1993), Resilience Scale. This scale has been used widely with adolescents, younger and older adults. Lastly optimism was measured using 6 items included from the Life Orientation Test (Scheier & Carver, 1985).

A valid measure of PsyCap was developed and could be applied in the work context utilising the Psychological Capital Questionnaire (PCQ-24), (Luthans & Avolio, 2009; Luthans et al., 2007a; Luthans & Youssef, 2007). Thus far, this is the only instrument being utilised to measure PsyCap.

According to Luthans and Youssef (2007), as a higher order core factor, there is an underlying thread or commonality running through PsyCap that represents one's positive appraisal of the particular situation, the physical and personal resources available, and the probability of succeeding based on personal effort, upward striving, and perseverance (Luthans et al., 2007b). According to Avey et al. (2011), findings from their meta-analysis support the multi-dimensional nature of PsyCap with relatively high correlations between the sub scales in the 0.6 to 0.7 ranges. These correlations are between the components of PsyCap and Luthans et al.

(2007a) through confirmatory factor /analysis state that PsyCap was best modelled as a second order factor.

The responses on the PCQ-24 were anchored on a 6 point Likert scale: 1= strongly disagree; 2= disagree; 3= somewhat disagree; 4 = somewhat agree; 5 = agree and 6 = strongly agree. Some sample items for each sub scale include the following: I feel confident analysing a long term problem so as to find a solution (efficacy); there are lots of ways around any problem (hope); I usually manage difficulties one way or another at work (resilience) and I always look on the bright side of things regarding my job (optimism).

3.4.3.1 Validation Samples Used for PsyCap Measure

Luthans et al. (2007a) conducted several studies to analyse how hope, resilience, optimism and self-efficacy could predict work performance and job satisfaction as individual constructs and as a higher order factor using two samples. Study 1 had two samples as follows: a sample consisting of 167 management students from a US mid-western university. The second sample within Study 1 comprised 404 management students from a large mid-eastern university in the US. Furthermore, to measure the stability of the PsyCap measure, Luthans et al. (2007a), administered a series of scales at three points in time over the course of four weeks to 174 different management students from the previously mentioned mid-western university in the US.

Study 2 consisted of two samples. Sample one consisted of 115 engineers and technicians from a large Fortune 100 high tech manufacturing organisation. The second sample from Study 2 comprised of 144 participants across job functions from a midsized insurance service firm. The studies hypothesised that the level of PsyCap would be positively related to their performance and job satisfaction. The second hypothesis was that employees' level of PsyCap would have a relatively stronger relationship to their performance and job satisfaction than each of the individual facets of hope, resilience, optimism and self-efficacy. Furthermore these two studies were conducted to analyse the measures included in PsyCap and utilised test retest statistics, confirmatory factor analysis.

According to Luthans et al. (2007a, p555), the reliability of the overall PsyCap measure was consistently above the required standard as reflected by the following internal consistency levels across the four samples: (.88, .89, .89 and .89). Of note are the Cronbach alpha coefficients for each of the four 6 item measures as follows: hope (.72, .75, .80, .76); resilience (.71, .71, .66, .72); self-efficacy (.75, .84, .85, .75), optimism (.74, .69, .76, .79). The lower value for the optimism scale (.69) and the lower value for the resilience scale (.66) highlights that internal consistency was not maintained for the individual scales across all samples (Luthans et al., 2007a).

Luthans et al. (2007a) went further to conduct psychometric analyses. The analysis was necessary to establish content validity; and ensure equal representation of the four PsyCap facets; to establish sufficient PsyCap scale reliability; to establish a unitary factor structure consistent with the proposed latent constructs; to establish convergent validity with other theoretically similar constructs; and to establish discriminant validity with those constructs with which it is supposed to differ.

According to Luthans et al. (2007a), findings from the confirmatory factor analysis in Study 1 and Study 2 supported the proposed higher-order positive psychological factor (PsyCap). Beyond assessing the factor structure of the PsyCap scale, Luthans et al. (2007a) empirically examined the discriminant, convergent, and criterion validity. According to Luthans et al. (2009), findings from the analyses highlight PsyCap accounts for unique variance beyond recognised traits such as personality and core self-evaluations when predicting job satisfaction and affective organisational commitment.

In addition, Luthans et al. (2007a) calculated test-retest reliabilities on the PsyCap instrument to determine the degree of stability of the instrument. According to Luthans et al. (2007a) the findings suggest that PsyCap may be ‘state- like’ and in this way distinct from the ‘trait- like’ core self-evaluations and personality traits as well as the positive emotional states. Through validating the PsyCap measure, Luthans et al. (2007a) concluded that there was substantial evidence showing that positive constructs such as hope, optimism, resilience and self-efficacy have a common core which they have labelled PsyCap and is related to performance and satisfaction.

3.4.3.2 Factor Structure of PsyCap as used in the Present Study

The PsyCap measure was subjected to psychometric investigation to determine its suitability in the present studies. Further details of the analyses will be explained in Chapter 4.

3.4.3.3 Studies Using PsyCap Measure

In the SA context, Du Plessis and Barkhuizen (2012) tested the PCQ-24 on 131 Human Resources practitioners, who are members of the South African Board of People Practice (SABPP). Though the population comprised of 1500 SABPP members, a 15% response rate was achieved. The reliability and validity of the PCQ was determined by means of Cronbach's alpha co-efficients, as well as exploratory factor analysis. Findings from the DuPlessis and Barkhuizen (2012) study on PsyCap were contrary to findings by Luthans et al. (2007b). According to DuPlessis and Barkhuizen (2012), six possible factors could be retained in terms of the MINEIGEN criterion with values greater than one. These findings are contrary to the four factor structure developed by Luthans et al. (2007a). Du Plessis and Barkhuizen (2012) highlighted that some of the items loaded on different factors from the original structure.

DuPlessis and Barkhuizen (2012) applied principal component factor analysis which resulted in a three factor structure. This factor structure is labelled as PSA-PsyCap comprised of hopeful- confidence, optimism and resilience. According to DuPlessis and Barkhuizen (2012), all three factors showed acceptable internal consistency and were more meaningful and more usable for the South African sample.

Du Plessis and Barkhuizen (2012) conducted a multivariate analysis of variance (MANOVA) on scores of different biographical groups on the PsyCap dimensions that emerged in their study. Biographical details collected were the participants' gender, age, racial ethnic categories, home language, marital status, educational level, years of work experience, organisational level, and years in organisation and level of registration in the SABPP. According to Du Plessis and Barkhuizen (2012), findings from the MANOVA on the three factor structure of PsyCap, highlighted that significant differences existed only for age, ethnicity, language, marital status, position, and educational qualification.

A statistically significant difference between age groups emerged on the hopeful-confidence dimension. According to DuPlessis and Barhuizen (2012), the group aged 45 years and older scored higher on this dimension. However the effect size was small. On other biographical variables, DuPlessis and Barkhuizen (2012) found statistically significant differences between Black and White ethnic groups in terms of hopeful- confidence. On average, the White ethnic group scored higher on hopeful-confidence and the effect size was small. Statistically significant differences emerged on the resilience dimension where the Afrikaans speaking respondents reported significantly higher resilience when compared to other languages in their study.

DuPlessis and Barkhuizen (2012) also reported differences on the optimism dimension between practitioners who had never been married and those who reported other marital status. Those practitioners who had never been married reported significantly lower levels of optimism. On the variable of seniority, significant differences emerged across the three dimensions of PSA- PsyCap. According to DuPlessis and Barkhuizen (2012) on average top management scored significantly higher on all three dimensions than professionals.

Lastly DuPlessis and Barkhuizen (2012) reported significant differences between practitioners with an undergraduate and practitioners with a graduate qualification on the dimension of optimism. On average practitioners with a graduate degree reported significantly higher levels of optimism than practitioners with only undergraduate degrees. The effect size was small. DuPlessis and Barkhuizen (2012) stated that further research on POB constructs and PsyCap using different samples was necessary.

Avey et al. (2008) applied the PCQ-24 on a sample of 132 working adults from a wide cross section of US organisations. The study investigated whether a process of employees' positivity will have an impact on relevant attitudes and behaviours. The measures included in the study were for PsyCap, mindfulness, positive emotions, engagement, cynicism, deviance and organisational citizenship behaviours. According to Avey et al. (2008) their findings highlighted that the reliability co-efficients for all the PsyCap components were greater than 0.70 and 0.95 for the overall PsyCap measure. All items loaded greater than 0.70 and no cross loadings were highlighted. Furthermore, Avey et al. (2008), conducted confirmatory factor

analysis using maximum likelihood techniques and highlighted that the PCQ-24 yielded an adequate fit in terms of CFA indices. Furthermore, model comparison using a chi-square difference significance test indicated that the hypothesized model with PsyCap leading to positive emotions was a significantly better fit.

3.4.4 Psychological Climate

Psychological climate was measured using the measures of psychological climate developed by Koys and DeCotiis (1991). According to Koys and DeCotiis (1991), the multi-dimensional construct of psychological climate is measured utilising eight dimensions as described in Table 3.4. These measures are at an individual level where respondents react to 40 items on a 7-point Likert scale ranging from strongly agree to strongly disagree.

Table 3.4: Definition of Psychological Climate Dimensions

Dimension Name	Definition
Autonomy	The perception of self-determination with respect to work procedures, goals and priorities
Cohesion	The perception of togetherness or sharing within the organisation setting, including the willingness of members to provide material aid
Trust	The perception of freedom to communicate openly with members at higher organisational levels about sensitive or personal issues with the expectation that the integrity of such communication will not be violated
Pressure	The perception of time demands with respect to task completion and performance standards
Support	The perception of the tolerance of member behaviour by superiors, including the willingness to let members learn from their mistakes without fear of reprisal
Recognition	The perception that member contributions to the organisation are acknowledged
Fairness	The perception that organisational practices are equitable and non-arbitrary or capricious
Innovation	The perception that change and creativity are encouraged, including risk-taking into new areas or areas where the member has little or no prior experience

According to Koys and DeCotiis (1991), there has been little agreement on what constitutes psychological climate and its measurement. Utilising the available literature as a starting point, Koys and DeCotiis (1991), reduced the total number of 80 named dimensions based on several decision rules. The rules established by Koys and DeCotiis (1991) were: had to be a measure of perception; had to be a measure describing, not evaluating, activities; and could not be an aspect of

organisational or task structure. This led to the elimination of all objective measures (absenteeism, turnover, tardiness, labour disputes, accidents, and productivity); evaluative measures (job satisfaction) and measures relating to organisational structure such as centralisation, organisation size and administrative procedures).

According to Koys and DeCotiis (1991) using the decision rules discussed above, reduced the 80 dimensions to 61, meaning further culling was required. Koys and DeCotiis (1991) clustered the remaining dimensions into similar underlying constructs further reducing the number of dimensions. Dimensions that were ambiguous were eliminated altogether and this further reduced the dimensions. According to Koys and DeCotiis (1991) 45 dimensions remained and these were categorised into eight concepts which were viewed as the universe of psychological climate.

Koys and DeCotiis (1991) administered the instrument to 475 managerial employees of a major US restaurant chain and 367 were returned. According to Koys and DeCotiis (1991), the co-efficients alpha, item total correlations, and the factor analyses show evidence of the reliability and validity of the scales. The correlation between the eight dimensions for the original and validation sample reported by Koys and DeCotiis (1991) were between 0.00 and 0.79 with a median of 0.28. Koys and DeCotiis (1991) conducted a factor analysis on the original data and reported that eight factors were produced and accounted for 60% of the variance.

The Koys and DeCotiis (2008) measure used a 7-point response Likert scale ranging from ‘Strongly Disagree’ to ‘Strongly Agree’. Sample items from the psychological climate measure were as follows: *autonomy*= I determine my own work procedure; *cohesion*= there is a lot of ‘team spirit’ among (research organisation) people; *trust*= my boss has a lot of personal integrity; *pressure*= I feel like I never have a day off; *support*= my boss is behind me 100%; *recognition*= my boss is quick to recognise good performance; *fairness*= my boss does not play favourites; *innovation*= my boss promotes new ways of doing things.

3.4.4.1 Validation Samples Used for Psychological Climate Measure

To validate the construct validity of the instrument, Koys and DeCotiis (1991) utilised a sample of 117 males and females enrolled in the MBA evening programme in a US

university. Only those MBA students who were employed full time were included in the study. They were mainly managers and professionals employed in various manufacturing, service and government organisations. Koys and DeCotiis (1991) conducted a factor analysis on the responses and reported that eight factors were produced that accounted for 71% of the variance.

For both samples (original and validation), items loading onto the first factor generally corresponded to the dimensions of trust and support. According to Koys and DeCotiis (1991), the common thread between the samples was the nature of the interpersonal relationship between superior and subordinate. For the subsequent psychological climate factors, Koys and DeCotiis (1991) highlighted some differences between the original sample and the validation sample. The differences were attributed to the different experiences of the groups. In addition, Koys and DeCotiis (1991) highlighted that the problematic scales may be due to the fact that the pressure, innovation and fairness concepts are less concrete than other dimensions.

Koys and DeCotiis (1991) state that the majority of items (28 out of 40) that loaded on a particular factor in the original sample loaded on a corresponding factor in the validation sample. However, Koys and DeCotiis (1991) also explained that though the results from the original and validation samples were encouraging there was room for improvement in the psychometric properties of the scales pressure, innovation and fairness. An example was the pressure dimension which had a co-efficient alpha of 0.81 in the original sample but had a marginal 0.57 for the validation sample. Koys and DeCotiis (1991) also caution on the interpretation of the factors produced in the study due to sample size and the decision to use a loading of 0.30 as a cut-off level for using items to interpret the factors.

3.4.4.2 Factor Structure of Psychological Climate as used in the Present Study

The psychological climate measure was subjected to psychometric investigation to determine its suitability in the present studies. Further details of the analyses will be explained in Chapter 4.

3.4.4.3 Studies Using Psychological Climate Measure

In the South African context, Klem and Schlechter (2008) utilised the Koys and DeCotiis (1991) instrument, in a clothing manufacturing plant in SA and had 297 respondents across education levels. The composite questionnaire utilised by Klem and Schlechter (2008) consisted of a covering letter, a biographical section and the two measuring instruments, namely psychological climate and emotional intelligence. The biographical information collected in this study were age, gender, population group, educational level, role in the organisation, tenure and department where respondent worked.

According to Klem and Schlechter (2008), the internal reliability of the Koys and DeCotiis (1991) sub scales tested on their South African sample ranged from 0.57 to 0.89 across the eight dimensions used in the instrument. Following an exploratory factor analysis (EFA), 32 items remained in the final factor structure. Klem and Schlechter (2008) explain that the reason for changes in the factor structure, were attributed to possible misinterpretation of items by SA respondents due to cultural differences, language and differences in education levels. According to Klem and Schlechter (2008), the language used for the instrument, though translated from English into Afrikaans, could have resulted in the respondents in the SA sample misinterpreting some of the items.

From the Klem and Schlechter (2008) study, the EFA produced five meaningful factors and these factors explained 61.1% of the variance. The Cronbach alpha co-efficient for the EFA derived scale was found to be 0.93 and for the factors: factor 1=0.94, factor 2= 0.85, factor 3= 0.82, factor 4= 0.66 and factor 5= 0.88. Klem and Schlechter (2008) explain that based on analysis of items that loaded meaningfully, the climate factors were described as follows: climate factor1=trust, climate factor 2= cohesion, climate factor 3= autonomy, climate factor 4= pressure and climate factor 5 = innovation. Klem and Schlechter (2008) conducted an analysis of variance (ANOVA) of the departments in the organisation and psychological climate. The findings revealed that a single climate existed in the research organisation (Klem & Schlechter, 2008).

In another South African study utilising the Koys and DeCotiis (1991) instrument, Boshoff et al. (2002) selected a sample of 1484 respondents from a financial

services group and a university. Boshoff et al. (2002) cautioned on the interpretation of the results stating that portability of the Koys and DeCotiis (1991) instrument must be subject to some doubt. Boshoff et al. (2002) explained that the principal factor analysis followed by confirmatory factor analysis yielded a uni-dimensional structure consisting of 37 items. The scale had a Cronbach alpha of 0.98 and explained 62% of the variance. According to Boshoff et al. (2002), the measurement model of Koys and DeCotiis (1991) as a uni-dimensional structure did not fit the data well.

For the present study the Koys and DeCotiis (1991) instrument was applied on a sample comprised of junior to senior management employees in a tyre manufacturing organisation. The findings could possibly contribute to the extant literature on psychological climate within a South African context and highlight the portability of the instrument as well as determine the nature of relationships between the variables under study.

3.4.5 Team Commitment

Team commitment was measured using the Team Commitment Survey (TCS) developed by Bennett (2000). The TCS was developed by modifying the Organisational Commitment Scale (OCS) developed by Allen and Meyer (1990). The TCS changed the referent organisation to team and added 11 additional items to the 24 items already in the OCS as these items were believed to measure team commitment (Bennett & Boshoff, personal communication, 5 November 2003). The change in the referent is in line with the assertion by Becker (1992) who states that employees were committed to teams and departments rather than to the organisation in general.

The TCS was found to measure team commitment by the same factors as those identified by Allen and Meyer (1991) namely affective, continuance and normative commitment (Dannhauser, 2009). According to Meyer and Allen (1990) those employees with strong affective commitment remain because they want to, those with strong continuance commitment remain because they need to, and those with strong normative commitment because they ought to. The three components are measured at an individual level where respondents react to 35 items on a 7-point Likert scale ranging from ‘Strongly Disagree’ to ‘Strongly Agree’.

3.4.5.1 Validation Samples Used for the Team Commitment Measure

Dannhauser (2009) cross validated the TCS on a sample of car sales dealerships in SA. After conducting a confirmatory factor analysis (CFA) on the original three factor structure, the goodness of fit indices suggested an unsatisfactory fit on the Dannhauser (2009) dataset. According to Dannhauser (2009), the CFA indices that emerged indicating a poor fit were as follows (RMSEA= 0.11, SRMR= 0.071; GFI= 0.92; AGFI= 0.85 and ECVI= 0.44). Further EFAs were conducted to determine a better fit for the Dannhauser (2009) data.

The EFA initially indicated six factors but due to cross loading, Dannhauser (2009) explains that these factors were not separate dimensions of the construct as interpretation of the individual factors was not successful. This led to the two factor solution where factor one explained 30.65% of the total variance and factor two explained 16.94% of the total variance. Dannhauser (2009) explained that the content as well as the form of the construct differed with a South African sample.

3.4.5.2 Factor Structure of Team Commitment as used in the Present Study

The team commitment measure was subjected to psychometric investigation to determine its suitability in the present study. Further details of the analyses will be explained in Chapter 4.

3.4.5.3 Studies Using Team Commitment Measure

Application of the TCS on a South African sample in a sales environment, Dannhauser (2009), reduced the original three factors in the TCS to two: namely emotional and rational commitments. The Cronbach alpha co-efficients in the two factor solution on a 24 item scale were 0.89 (factor 1) and 0.85 (factor 2). Based on the contents of the items in the two factors, Dannhauser (2009) explains that factor one represented the emotional aspect of affective team commitment while factor two indicated a rational (cognitive) aspect of team commitment. To determine stability and to investigate the degree of invariance when applied to different samples, Dannhauser (2009) carried out further analysis on the new two factor structure. Firstly, Dannhauser (2009) carried out CFAs on the responses to the TCS of respondents in the two sub samples. The CFA indices that emerged suggested the measurement model fitted the data in the sub samples moderately. Further CFAs

were conducted and Dannhauser (2009) concluded that the TCS measurement was probably invariant (thus not different) across the two different sub samples.

Schlechter and Strauss (2008) also utilised the TCS in six manufacturing plants located in SA. Their sample consisted of twenty-five teams from six plants comprised of various occupations such as shop floor workers, supervisors, heads of department and administrative employees. The majority of the respondents were male, belonging to the Coloured population group and had a grade 12 qualification. Though the majority of the respondents spoke English as a second language and had limited schooling, the Schlechter and Strauss (2008) study was conducted in English. Schlechter and Strauss (2008) state that the limitation of language and relatively low level of schooling may have possibly influenced the negative results that emerged in their study.

Following three rounds of EFAs, the items in TCS measure were reduced from 35 to 26. The EFA derived structure maintained the three factor structure as proposed by Allen and Meyer (1990). The eigenvalues were as follows: factor one = 6.45 and explained 24.79% of the total variance, factor two = 4.51 and explained 17.36% of the total variance and factor three = 1.86 and explained 7.17% of the total variance. The Cronbach alpha coefficients for the TCS in the Schlechter and Strauss (2008) study was as follows: full scale (0.85), factor one- affective commitment (0.85), factor two- continuance commitment (0.80), and factor three-normative commitment (0.80).

3.4.6 Intention to Quit

Utilising Mobley et al. (1979) definition of intention to quit, Cohen (1993) developed a three item scale to measure intention to quit. Respondents were asked to indicate their agreement to three items on a 5-point Likert response scale. Cohen (1993) utilised a sample of 129 white collar employees from three unionised, privately owned firms to assess how different forms of work commitments are related to withdrawal intentions. Cohen (1993) retained all three items for analysis. He found that organisational commitment was found to be the strongest predictor of intentions to withdraw from the organisation.

Hoole (1997) explains that the three items were chosen to measure intention to quit because they measure a much broader concept of withdrawal cognition and a three item scale is possibly more reliable than a one item scale. The intention to quit scale has been used in South African studies and found to be reliable (Boshoff et al. 2002; Hoole, 1997; Kahumza & Schlechter, 2008). In a study by Kahumza and Schlechter (2008) the Cronbach alpha obtained for the intention to quit scale was 0.90 and all the items were retained for analysis. Respondents reacted to a 5 point Likert response scale ranging from 'Strongly Disagree' to 'Strongly Agree'. Sample items from the measure were as follows: 'I think a lot about leaving the organisation'.

3.4.6.1 Intention to Quit as used in the Present Study

The intention to quit measure has three items and no sub scales hence factor analysis could not be applied as no factors could be extracted. The three items as developed by Cohen (1993) and utilised on a South African sample (Hoole, 1997) were also applied in the present study. The Cronbach Alpha co-efficient for the intention to quit measure in the present study was 0.89.

3.4.6.2 Studies done using Intention to Quit Measure

Hoole (1997) investigated the relationship among work commitment and its facets, role stress (role conflict and ambiguity) and intention to quit. The three item instrument as developed by Cohen (1993) was applied on a South African sample of 1527 respondents. The sample comprised of employees in two large organisations, a financial services company and a university. The biographical information collected in the Hoole (1997) study included age, gender, language spoken, and marital status. In other studies that utilised the Cohen (1993) intention to quit measure, the three item scale was maintained (Boshoff et al., 2002; Schlechter, 2005) and intention to quit was measured as a dependent variable.

3.5 Procedure

3.5.1 Data Gathering

Permission to conduct the present study was obtained from the EXCO of the research organisation a few months prior to the present study commencing. The research organisation (the SA plant of the global tyre manufacturing organisation) was selected due to proximity and organisational structures that supported empirical testing of variables under study.

Before the present study commenced, the EXCO of the SA plant requested a formal presentation of the present study which would highlight the process to be carried out, benefits of the study for the organisation and ethical issues that could arise and the possible impact on their employees. After permission to carry out the study was granted, the Human Resources Management (HRM) team in the organisation was assigned the task of facilitating access to the research participants. This required the researcher to undergo a safety training and testing process to enable ease of access to the manufacturing plant.

Upon successful completion of the test, the researcher was given a plant tour and introduced to the sections of the organisation that would be involved in the present study. A memo had been sent out by the EXCO to all targeted employees informing them of the research process. A joint letter had been written by EXCO and the researcher outlining the purpose of the research and requesting assistance and cooperation from all targeted employees.

Employees were assured that the information collected would not identify respondents. The only identifiable information requested in the demographic section of the questionnaire was the department to which the respondent belonged. Several respondents left this blank or wrote the broad organisational categories of sales and marketing or manufacturing. Collecting this departmental data would have enabled analysis of how the different departments responded to the variables under study.

The researcher was also invited to departmental meetings 6 weeks before the study commenced and given a platform to explain the present study and the process that would be followed in data collection. Based on previous surveys conducted in the

organisation and also due to limited computer access at the junior management level, the EXCO recommended the paper and pencil approach for data collection. Ease of access to the targeted employees was through the HRM team providing the list of names and departmental codes through which the survey packets could be addressed and delivered.

After the survey packets were labelled and sorted by department, these were handed out to the targeted respondents requesting completed questionnaires to be submitted in the designated drop-off boxes. For ease of delivery to the correct employee, the survey packet was addressed to the employee by name, their division (either manufacturing or the sales and marketing division) and their cost code (for purpose of distribution within the plant).

The HR consultants responsible for the various cost codes in the organisation were given their respective questionnaires to distribute after a briefing by the researcher with the support of the EXCO. The internal mailing system was also used for sending out the survey packets. In instances where the survey packets were not delivered, the managers, in their departmental meetings, handed these out to the relevant employees. Managers in the various departments also received an email informing and reminding them of the research process. Their cooperation was requested and the need for additional information on the study was included in the email.

The research packet comprised: the composite questionnaire, a covering letter from EXCO and the researcher; as well as a return envelope addressed to the researcher. The covering letter written jointly by EXCO and the researcher outlined the purpose of the study, the value for the organisation, rights of the employee in participation in the research process, contact details of the research team and the support from the EXCO.

Instructions in the covering letter and on the composite questionnaire outlined the need to complete the survey questionnaire in full, to insert in the return envelope and submit in the designated drop-off box. The drop-off boxes were placed at two points: at the reception area and in the mailing room for when the reception personnel were off duty. The reception area was perceived as a more central location and would reduce possibility of identifying respondents due to the distance from the manufacturing plant.

The survey was conducted over a four week period to accommodate the targeted employees working on shifts and to enable a larger group of employees to respond. To optimise the number of responses, a weekly update and reminder was sent out to managers, HR Consultants helping in the survey process and employees participating in the survey via email and telephonically until the survey process closed. In the week before the survey period closed, the researcher also called everyone on the targeted list checking if they had submitted their completed questionnaires and providing more survey packets to those who had misplaced their questionnaires. This process of calling targeted respondents and sending reminders yielded a significant increase (30%) in the surveys returned.

There were several advantages of using the paper and pencil approach in the present study. Firstly, respondents had the opportunity to complete the questionnaire at their own pace. Secondly, more targeted respondents could be included in the survey because the limitations of computer access and literacy may have eliminated some of the targeted respondents. Due to the organisational set up, the paper and pencil was suitable because most of the junior managers do not have office space and work on the factory line.

The shift system used in the organisation made it more difficult to congregate all the targeted respondents in one room hence paper and pencil enabled flexibility in terms of distribution of survey packets. The survey was self-administered, confidentiality was assured and maintained throughout the study and participation was voluntary and informed consent obtained from participants. Based on the duration recorded during the pilot study period, the allocated time to complete the composite questionnaire was between 10 and 15 minutes.

3.5.2 Data Analysis

Quantitative techniques were used to analyse the data in the present study. These techniques included multivariate analyses as follows: standard multiple regression analysis using EQS 6.2; EFA using Statistica v10, EQS 6.2 and SPSS v20, CFA using Statistica v 10, and structural equation modelling using Statistica v10. Through correlation and standard multiple regression, the relationship between the variables and their respective dimensions were assessed. To assess the fit between the theoretical model and the measurement model, structural equation modelling

approach was utilised. Table 3.5 summarises the statistical analyses carried out to answer the research questions.

Table 3.5: Summary of Data Analyses Techniques Utilised

Research Question	Analysis Utilised
Research Question 1a: • What are the content and the structure of the psychometric variables included in the present study and to what degree are the measuring instruments portable to a cultural setting different from the original ones in which the instruments were developed?	• Confirmatory Factor Analysis on original structure • Exploratory Factor Analysis • Confirmatory Factor Analysis on new structure
Research Question 1b: • Will biographical variables influence the perception of all measures (authentic leadership behaviours, PsyCap, Psychological Climate, Team Commitment) in the selected South African organisation? • Biographical variables are: *reporting unit, tenure, age, gender, home language, marital status, population group, highest educational qualification*	• Descriptive Stats • Correlation in case of non-categorical variables • t- test • ANOVA • Scheffé Post Hoc Test • Cohen's d
Research Question 2: • Will authentic leadership be positively related to psychological capital?	• Pearson Correlation • Standard Multiple Regression
Research Question 3: • Will authentic leadership positively relate to psychological climate?	• Pearson Correlation • Standard Multiple Regression
Research Question 4: • Will authentic leadership positively relate to team commitment?	• Pearson Correlation • Standard Multiple Regression
Research Question 5: • Will psychological climate positively relate to psychological capital?	• Pearson Correlation • Standard Multiple Regression
Research Question 6: • Is there a positive relationship between psychological capital and team commitment?	• Pearson Correlation • Standard Multiple Regression
Research Question 7: • Will psychological climate positively relate to the level of team commitment?	• Pearson Correlation • Standard Multiple Regression
Research Question 8: • Will authentic leadership, psychological capital, psychological climate and team commitment negatively relate to employees' intention to quit the organisation?	• Pearson Correlation • Standard Multiple Regression
Research Question 9: • Can a model of sequential relationships among the measures of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit be successfully built?	• Structural Equations Modelling

3.6 Chapter Summary

Chapter 3 provided a description of the methodology utilised in the present study. The results of the data analyses are presented in Chapter 4.

Chapter 4: Findings

4.1 Introduction

In Chapter 2 research questions were developed and propositions put forward. The data analyses carried out were aimed at answering these research questions and testing the propositions. The findings from the research questions will be addressed in the sections below.

Firstly, to confirm the internal reliability of the measures used in the present, the Cronbach alpha co-efficients were calculated for the measurement instruments using the original structures as discussed in the previous chapter. To interpret the Cronbach alpha co-efficients for the scales and sub scales, the guidelines by Tabachnick and Fidell (2001) in Table 4.1 were utilised.

TABLE 4.1: Interpretation of Reliability Coefficients (Tabachnick & Fidell, 2001)

Reliability Coefficient	Interpretation
.90 and above	Excellent
.80 - .89	Good
.70 - .79	Adequate
Below .70	May have limited applicability

The majority of the scales and sub scales utilised in the present study had Cronbach alphas above .80 indicating good levels of reliability. According to Hair et al. (2010), although the generally agreed level of the reliability co-efficient is 0.70, in exploratory research this could reduce to 0.60. Furthermore, Hair et al. (2010) state that increasing the number of items even with the same degree of inter-correlation will increase the reliability value. The Cronbach alpha co-efficients calculated on the responses of the participants in the present study are shown in Table 4.2:

TABLE 4.2: Summary of Cronbach Alpha Co-efficients on Original Instrument Structures

Measurement Instrument	Number of Items	Number of Sub Scales	Alpha Co-efficient Scale	Alpha Co-efficient: Sub Scales
Authentic Leadership	16	**4**	• 0.925	• Transparency: 0.75 • Moral: 0.81 • Balanced Processing: 0.72 • Self-Awareness: 0.86
PsyCap	24	**4**	• 0.869	• Efficacy/ Confidence: 0.80 • Hope: 0.81 • Resiliency: 0.67 • Optimism: 0.50
Psychological Climate	40	**8**	• 0.937	• Autonomy: 0.77 • Cohesion: 0.83 • Trust: 0.92 • Pressure: 0.74 • Support: 0.92 • Recognition:0.81 • Fairness: 0.79 • Innovation: 0.92
Team Commitment	35	**3**	• 0.899	• Affective Commitment: 0.83 • Continuance Commitment:0.80 • Normative Commitment: 0.90
Intention to Quit	3	0	• 0.896	

New Cronbach alpha co-efficients for the new factor structures following CFAs and EFAs carried out on the responses of the participants in the present study will be presented in later sections.

4.2 Results: Research Question 1a.

Research Question	Analysis Utilised
Research Question 1a: • What are the content and the structure of the psychometric variables included in the present study and to what degree are the measuring instruments portable to a cultural setting different from the original ones in which the instruments were developed?	• Confirmatory Factor Analysis • Exploratory Factor Analysis • Confirmatory Factor Analysis on New Factor Structure

To determine the structure of the measuring instruments, CFAs and EFAs were carried out on the responses of the participants on the measures used in the present study. The composite questionnaire in the present study comprised of measuring instruments that were developed in the United States (US) and uncertainty regarding measurement equivalence was required when used in South Africa (SA). According

to Hair et al. (2010), measurement equivalence is the condition in which the measures forming a measurement model have the same meaning and are used in the same way by different groups of respondents. To determine the underlying latent variables from the data in the present study, EFA was conducted utilising Statistica v10 and EQS v 6.2.

To conduct EFAs, a modified principle component analysis employing direct oblimin rotation was applied on the data. The basis for selecting this approach was due to possible relationships that existed between the variables. According to Fabrigar, Wegner, MacCallum and Strahan (1999) most of the constructs in psychology are related and suggest the use of a more robust approach such as principle axis factoring employing oblimin rotation. The EFA process was repeated until a satisfactory and meaningful model emerged.

Before EFAs were carried out, CFAs were conducted to determine the extent to which the present data fits the original measurement structure of the measures as discussed in previous chapters. The CFA reports on several indices such as the RMSEA (< 0.05 indicates good fit), GFI (values greater than .90 indicate a good fit), AGFI (values greater than 0.95 indicate a good fit) to determine the extent to which the data fits original structure. In instances where the fit indices were poor, several rounds of EFAs were conducted to improve and strengthen the factor structure.

The following sections outline the process followed per measure applied in the present study.

4.2.1 Authentic Leadership

To determine the suitability of the data in the present data for factor analysis and to ensure sampling adequacy, the Keiser-Meyer-Olkin (KMO) measure was applied. According to Tabachnick and Fidell (2001), the KMO index ranges from 0 to 1 and the suggested minimum value for a good factor analysis is .06. The KMO index for ALQ in the present study was 0.928 and this is adequate for factor analysis. After determining the KMO index, a CFA on the original ALQ structure was carried out to determine the fit on the present data.

4.2.1.1 CFA Authentic Leadership – Four Factor Structure

To determine the contents, validity and reliability of the authentic leadership measure, a CFA was carried out on the participants (n=204) responses to the 16 items in the ALQ (Walumbwa et al., 2008). The indices that emerged for the four factor structure on the present data are presented in Table 4.3:

TABLE 4.3: Results of CFA Authentic Leadership Four Factor Structure

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	0.603996442	0.823635	1.081034
Steiger-Lind RMSEA Index	0.078506235	0.091676	0.105028
McDonald Noncentrality Index	0.582446966	0.662445	0.739339
Population Gamma Index	0.88095692	0.906656	0.9298
Adjusted Population Gamma Index	0.834797359	0.870461	0.90258
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.859624115		
Joreskog AGFI	0.805192649		
Akaike Information Criterion	1.62564484		
Schwarz's Bayesian Criterion	2.24677075		
Browne-Cudeck Cross Validation Index	1.65986276		
Independence Model Chi-Square	1762.01734		
Independence Model df	120		
Bentler-Bonett Normed Fit Index	0.855843699		
Bentler-Bonett Non-Normed Fit Index	0.883346389		
Bentler Comparative Fit Index	0.904991318		
James-Mulaik-Brett Parsimonious Fit Index	0.698939021		
Bollen's Rho	0.82348208		
Bollen's Delta	0.905985877		

From the indices in Table 4.3, the CFA on the four factor ALQ structure did not fit the data well. Several rounds of EFAs were conducted to determine more appropriate structures.

4.2.1.2 EFA Authentic Leadership

The scree plot in Figure 4.1 is based on 16 items in the original structure of the ALQ.

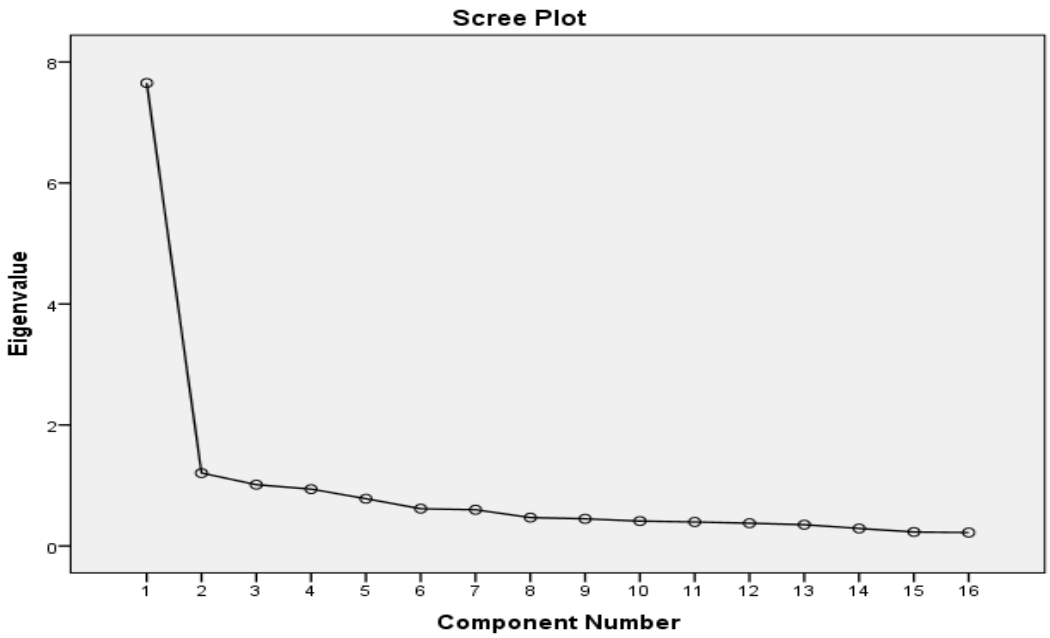

Figure 4.1: Scree plot of eigenvalues: Authentic Leadership Original Factor Structure

Table 4.4 shows the eigenvalues corresponding to the scree plot presented in Figure 4.1.

TABLE 4.4: Eigen values with all ALQ items (n=204)

Total Variance Explained			
Component	Initial Eigenvalues		
	Total	**% of Variance**	**Cumulative %**
1	**7.652**	47.825	47.825
2	**1.205**	7.532	55.357
3	1.012	6.327	61.684
4	0.94	5.875	67.559
5	0.781	4.883	72.442
6	0.616	3.848	76.29
7	0.599	3.741	80.031
8	0.468	2.928	82.959
9	0.449	2.805	85.764
10	0.412	2.572	88.337
11	0.396	2.477	90.813
12	0.376	2.349	93.162
13	0.352	2.197	95.359
14	0.289	1.808	97.168
15	0.231	1.447	98.615
16	0.222	1.385	100

Based on the Mineigen criterion, only components with eigenvalues above 1 were retained. The third eigenvalue was only barely above one, making a two factor structure more likely. The decision rules followed to determine the number of factors to be extracted and the items to be included in each factor were as follows: an item not loading >0.30 on any factor would be excluded (Tabachnick & Fidell, 2001); an item loading > 0.30 on more than one factor would be excluded if the difference between the higher and the lower loading is < 0.25 (Nunnally & Bernstein, 1994).

Table 4.5 shows the EFAs of the two factor structure on authentic leadership.

TABLE 4.5: EFA Authentic Leadership Two Factor Structure (All Items-Round 1)

	Factor Loadings	
Items	**1**	**2**
B2.1	0.505	0.145
B2.2	0.723	-0.161
B2.3	0.782	-0.136
B2.4	0.404	0.351
B2.5	0.429	0.052
B2.6	0.353	0.489
B2.7	-0.072	0.724
B2.8	0.497	0.309
B2.9	0.276	0.552
B2.10	0.087	0.573
B2.11	0.496	0.327
B2.12	0.733	0.041
B2.13	0.731	0.067
B2.14	0.706	0.002
B2.15	0.618	0.222
B2.16	0.651	0.105

Rotation Method:Direct Oblimin Solution

a. Converge after 9 iterations.

From the two factor structure in Table 4.5, four items cross loaded. After elimination of these items, another round of EFA on the two factor structure was attempted. Table 4.6 shows the EFA of authentic leadership where four items have been eliminated.

TABLE 4.6: EFA Authentic Leadership Two Factor (Four Items Eliminated-Round 2)

Items	Factor Loadings	
	1	2
B2.1	**0.574**	0.032
B2.2	**0.709**	-0.139
B2.3	**0.790**	-0.158
B2.5	**0.436**	0.050
B2.7	-0.021	**0.655**
B2.9	0.285	**0.540**
B2.10	0.061	**0.619**
B2.12	**0.701**	0.082
B2.13	**0.667**	0.170
B2.14	**0.611**	0.162
B2.15	**0.568**	0.289
B2.16	**0.606**	0.192

Rotation Method:Direct Oblimin Solution

a. Converge after 6 iterations.

After four items were eliminated in the second round of EFAs, items loaded strongly and uniquely on two factors. Figure 4.2 shows the scree plot of the final two factor structure with items eliminated.

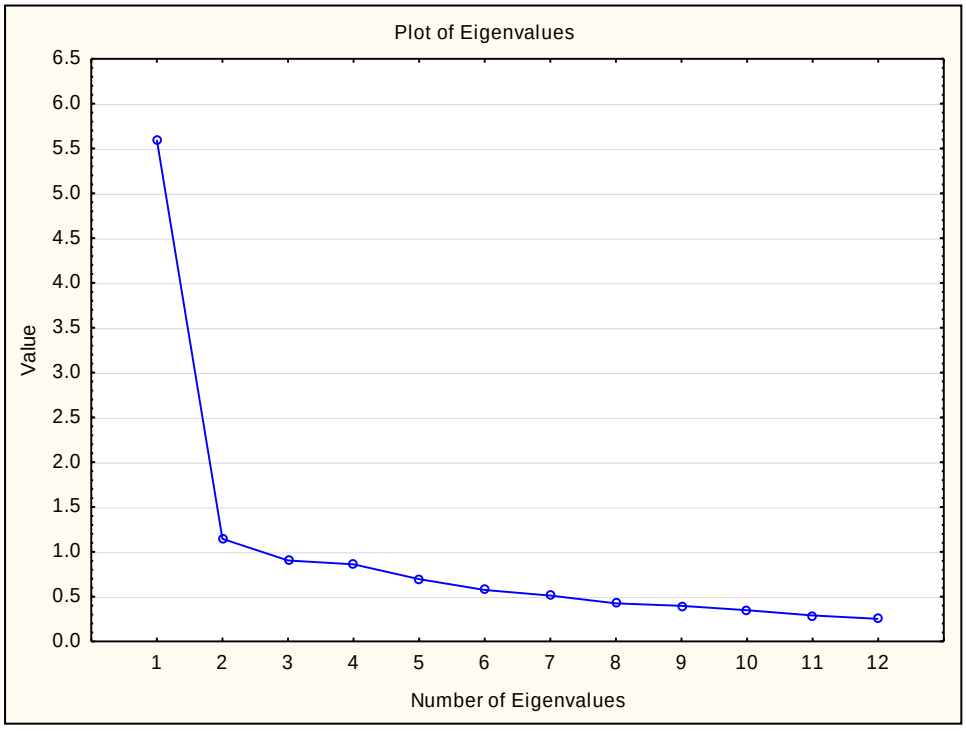

Figure 4.2: Scree plot of eigenvalues: Authentic Leadership Final Factor Structure

Based on the scree plot in Figure 4.2, the eigenvalues in Table 4.7 show the basis of a two factor ALQ structure.

TABLE 4.7: Eigenvalues used as basis for ALQ Final Two Factor Structure

	Eigenvalue	% Total variance	Cumulative Eigenvalue	Cumulative %
1	**5.596394**	46.63662	5.596394	46.63662
2	**1.144717**	9.53931	6.741112	56.17593
3	0.904057	7.533812	7.645169	63.70974
4	0.860484	7.170698	8.505653	70.88044
5	0.695242	5.793679	9.200894	76.67412
6	0.574166	4.784717	9.77506	81.45884
7	0.511158	4.259651	10.28622	85.71849
8	0.425108	3.542565	10.71133	89.26105
9	0.397337	3.311146	11.10866	92.5722
10	0.348918	2.90765	11.45758	95.47985
11	0.290433	2.420273	11.74801	97.90012
12	0.251986	2.09988	12	100

The percentage common variance predicted by the two factors selected for this study was: factor 1 =89.14% and factor 2 =10.88%. The percentage of total variance predicted by the factors was: factor 1= 46.6% and factor 2= 9.5%.

From the original four factor ALQ structure of transparency, moral/ ethical, balanced processing and self-awareness, the two factors in the present study were renamed as follows: factor 1= self-confidence of the leader and factor 2 = integrity of the leader. Following elimination, self-confidence (factor 1) consisted of items from the transparency, balanced processing and self-awareness dimensions. Integrity (factor 2) was a mix of items from moral and balanced processing. The two factors were highly correlated (r=.574).

After extracting the two factor structure, item parcelling was applied to reduce error variance and improve the fit in the calculation of a CFA on the two factor structure. According to Bagozzi and Heatherton (1994), parcelling of items should be done only where the items in the scale or sub scale exceed five. The ALQ in the present study has 12 items split into two factors. Factor 1 has nine items while factor 2 has three items. Item parcelling was applied on the items in factor 1.

CFA indices for the final two factor structure are presented in Table 4.8.

TABLE 4.8: Results of CFA of ALQ on Final Two Factor Structure (n=204)

	Lower 90%	Point	Upper 90%
Non-centrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	0.030666	0.08882	0.184362
Steiger-Lind RMSEA Index	0.061913	0.105368	0.151807
McDonald Noncentrality Index	0.91194	0.956562	0.984784
Population Gamma Index	0.942104	0.971245	0.989882
Adjusted Population Gamma Index	0.848023	0.924518	0.973439
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.959009		
Joreskog AGFI	0.892399		
Akaike Information Criterion	0.259201		
Schwarz's Bayesian Criterion	0.471692		
Browne-Cudeck Cross Validation Index	0.263776		
Independence Model Chi-Square	538.0976		
Independence Model df	15		
Bentler-Bonett Normed Fit Index	0.950533		
Bentler-Bonett Non-Normed Fit Index	0.933135		
Bentler Comparative Fit Index	0.964408		
James-Mulaik-Brett Parsimonious Fit Index	0.506951		
Bollen's Rho	0.90725		
Bollen's Delta	0.964807		

The indices in Table 4.8 suggest that a two factor structure is more suited for the data in the present study than the original four factor structure. Furthermore, conceptual interpretation of the two factor structure could be done based on the items loading onto the two factors as shown in Table 4.6.

The Cronbach alpha co-efficients for the new factor structure are as follows: authentic leadership scale= 0.89, self-confidence of the leader (factor 1) =0.88 and integrity of the leader (factor 2) = 0.71. According to Tabachnick and Fidell (2001) reliability coefficients at this level indicate good reliability for the full scale and factor 1. For factor 2 the reliability is acceptable. Overall, the authentic leadership factor structure in the present study differs slightly from the Walumbwa et al. (2008) structure. Items loaded differently and respondents in the present study did not perceive authentic leadership as a four factor structure.

4.2.2 Psychological Capital

To determine the suitability of the present data for factor analysis and to ensure sampling adequacy, the Keiser-Meyer-Olkin (KMO) measure was applied. According to Tabachnick and Fidell (2001), the KMO index ranges from 0 to 1 and the suggested minimum value for a good factor analysis is .06. The KMO index for PsyCap in the present study was 0.845 and this is adequate to conduct factor analysis. To determine the fit between the original four factor structure and the present data, a CFA was conducted.

4.2.2.1 CFA Psychological Capital

To determine the contents, validity and reliability of PsyCap, CFA was carried out on the participants (n=204) responses to the 24 items in the PCQ-24 (Luthans et al., 2007a). Table 4.9 presents the indices for the four factor structure in this study.

TABLE 4.9: CFA PsyCap Original Four Factor Structure

	Lower 90%	**Point**	**Upper 90%**
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	1.00364544	1.3037465	1.64212278
Steiger-Lind RMSEA Index	0.063873778	0.0727996	0.081702484
McDonald Noncentrality Index	0.439964433	0.5210688	0.605426131
Population Gamma Index	0.8796285	0.9020016	0.922818148
Adjusted Population Gamma Index	0.853205488	0.8804897	0.90587579
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.826698547		
Joreskog AGFI	0.788656765		
Akaike Information Criterion	3.13970062		
Schwarz's Bayesian Criterion	4.02235323		
Browne-Cudeck Cross Validation Index	3.21442249		
Independence Model Chi-Square	1834.7055		
Independence Model df	276		
Bentler-Bonett Normed Fit Index	0.711474553		
Bentler-Bonett Non-Normed Fit Index	0.795348583		
Bentler Comparative Fit Index	0.818208619		
James-Mulaik-Brett Parsimonious Fit Index	0.634140362		
Bollen's Rho	0.676288522		
Bollen's Delta	0.821018258		

Based on the indices in Table 4.9 the findings were contradictory due to the mixed levels of indices that emerged. Some indices such as the RMSEA (< 0.05 indicates a good fit) suggest the present data has an adequate fit on the original structure. Other indices such as the AGFI and GFI (> 0.95 indicates a good fit) suggest the data does not fit. EFAs were attempted to improve and strengthen the fit of the factor structure of PsyCap on the present data.

4.2.2.2 EFA Psychological Capital

The scree plot in Figure 4.3 shows the possible factors that could be extracted for PsyCap on the present data.

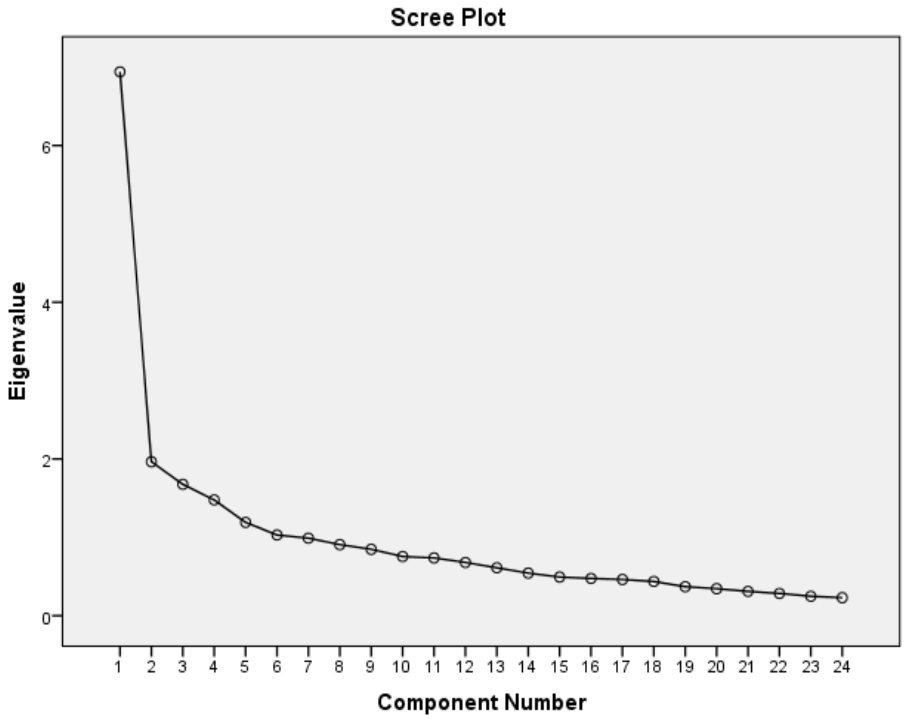

Figure 4.3: Scree plot of eigenvalues: Psychological Capital Original Structure

From the scree plot shown in Figure 4.3, it seemed as if six possible factors could be extracted. However, the eigenvalues presented in Table 4.10 suggest that a maximum of five possible factors could be extracted.

TABLE 4.10: Eigenvalues PsyCap All Items (n=204)

Total Variance Explained			
Component	**Initial Eigenvalues**		
	Total	% of Variance	Cumulative %
1	**6.941**	28.919	28.919
2	**1.964**	8.185	37.104
3	**1.677**	6.987	44.091
4	**1.477**	6.154	50.245
5	**1.191**	4.962	55.206
6	1.03	4.29	59.497
7	0.989	4.122	63.619
8	0.907	3.779	67.397
9	0.847	3.529	70.927
10	0.755	3.147	74.074
11	0.737	3.07	77.144
12	0.679	2.829	79.973
13	0.611	2.545	82.518
14	0.543	2.264	84.782
15	0.493	2.052	86.834
16	0.476	1.982	88.816
17	0.462	1.923	90.739
18	0.437	1.821	92.561
19	0.37	1.541	94.102
20	0.345	1.437	95.539
21	0.31	1.292	96.831
22	0.284	1.184	98.015
23	0.247	1.029	99.044
24	0.23	0.956	100

Though the eigenvalues in Table 4.10 suggest five possible factors could be extracted, an EFA on a four factor structure was attempted. Based on the Mineigen criterion, only components with eigenvalues above 1 were retained. The fifth eigenvalue was almost one, making a four factor structure more likely. In addition, the original factor structure validated by Luthans et al. (2007a) had four factors. Hence choosing to start with an EFA on a four factor structure was based on the contradictory indices in the CFA on the four factor structure in Table 4. 9, and on the eigenvalues shown in Table 4.10.

The decision rules followed to determine the number of factors to be extracted and the items to be included in each factor were as follows: an item not loading >0.30 on

any factor would be excluded (Tabachnick & Fidell, 2001); an item loading > 0.30 on more than one factor would be excluded if the difference between the higher and the lower loading is < 0.25 (Nunnally & Bernstein, 1994).

Table 4.11 shows the EFA of a four factor structure with all items in the PCQ-24.

TABLE 4.11: EFA PsyCap Four Factor Structure (Round 1 All Items)

	Factor Loadings			
Items	**1**	**2**	**3**	**4**
C3.1	.079	.521	.025	.228
C3.2	-.053	.827	.050	-.030
C3.3	-.012	.697	-.134	-.039
C3.4	-.014	.569	-.173	-.069
C3.5	.050	.538	.066	.036
C3.6	.031	.539	-.080	-.057
C3.7	.287	.198	-.165	-.009
C3.8	-.054	.113	-.707	.083
C3.9	.336	.086	-.262	-.006
C3.10	-.074	.144	-.679	.072
C3.11	.128	.139	-.635	.007
C3.12	.030	.016	-.699	.048
C3.13	.143	.045	.072	.308
C3.14	.443	.280	.032	.080
C3.15	.483	.039	.045	-.012
C3.16	.532	.123	-.059	.069
C3.17	.771	-.096	.051	.037
C3.18	.518	.109	-.174	.063
C3.19	.388	.024	-.217	-.162
C3.20	-.004	-.063	-.019	.556
C3.21	.444	-.141	-.466	-.046
C3.22	.076	-.022	-.513	-.018
C3.23	-.200	.028	-.297	.740
C3.24	.297	.110	-.241	-.081

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 13 iterations.

The results of the EFA in Table 4.11 shows one item cross loading and two items that did not load. Further EFAs were conducted to determine whether it would be possible to improve and strengthen the factor structure of PsyCap for the purposes of the present study. The factor pattern obtained when items C3.7, C21, and C24 were excluded as shown in Table 4.12.

TABLE 4.12: Results EFA PsyCap Four Factor Structure (Three Items Eliminated-Round 2)

Items	Factor Loadings			
	1	2	3	4
C3.1	0.570	0.029	-0.043	0.227
C3.2	0.727	-0.017	-0.014	0.001
C3.3	0.625	0.013	0.155	-0.007
C3.4	0.589	-0.015	0.156	-0.083
C3.5	0.598	0.043	-0.070	-0.035
C3.6	0.594	-0.016	0.045	-0.054
C3.8	0.103	-0.008	0.663	0.068
C3.9	0.053	0.345	0.295	0.011
C3.10	0.135	-0.045	0.646	0.048
C3.11	0.143	0.144	0.600	-0.014
C3.12	-0.001	0.075	0.682	0.024
C3.13	0.034	0.165	-0.116	0.478
C3.14	0.314	0.413	-0.039	0.087
C3.15	0.019	0.546	-0.054	-0.003
C3.16	0.115	0.530	0.099	0.038
C3.17	-0.079	0.706	0.008	0.018
C3.18	0.064	0.535	0.230	0.065
C3.19	0.030	0.394	0.228	-0.197
C3.20	-0.061	-0.021	0.029	0.609
C3.22	-0.047	0.065	0.559	-0.030
C3.23	0.051	-0.172	0.291	0.571

Rotation Method: Direct Oblimin Solution
a. Converge after 14 iterations.

After eliminating three items in round two, an additional item (C3.14) emerged as a cross loader. This item was eliminated in the next EFA.

Table 4.13 shows the PsyCap four factors with four items eliminated.

TABLE 4.13: EFA PsyCap Four Factor Structure (Four Items Eliminated: Round 3)

Items	Factor Loadings			
	1	2	3	4
C3.1	-0.040	0.016	**0.569**	0.223
C3.2	-0.036	-0.006	**0.735**	0.005
C3.3	0.134	0.025	**0.634**	-0.003
C3.4	0.119	0.016	**0.606**	-0.073
C3.5	0.062	0.023	**0.595**	-0.041
C3.6	0.035	-0.014	**0.598**	-0.054
C3.8	**0.655**	0.002	0.107	0.069

Items	Factor Loadings			
	1	2	3	4
C3.9	0.286	**0.344**	0.062	0.015
C3.10	**0.666**	-0.067	0.124	0.038
C3.11	**0.584**	0.157	0.153	-0.011
C3.12	**0.670**	0.088	0.006	0.027
C3.13	-0.121	0.168	0.040	**0.481**
C3.15	-0.071	**0.551**	0.035	0.006
C3.16	0.087	**0.528**	0.130	0.043
C3.17	-0.005	**0.705**	-0.061	0.026
C3.18	0.205	**0.548**	0.085	0.075
C3.19	0.245	**0.366**	0.029	-0.202
C3.20	0.029	-0.014	-0.056	**0.610**
C3.22	**0.571**	0.052	-0.052	-0.035
C3.23	0.298	-0.172	0.049	**0.566**
Rotation Method: Direct Oblimin Solution				
a. Converge after 10 iterations.				

The four factor structure in Table 4.13 indicates items loaded strongly and uniquely on four factors. This is in line with the four factor structure put forward by Luthans et al. (2007a). The scree plot in Figure 4.4 shows the four factor structure with items that have been eliminated.

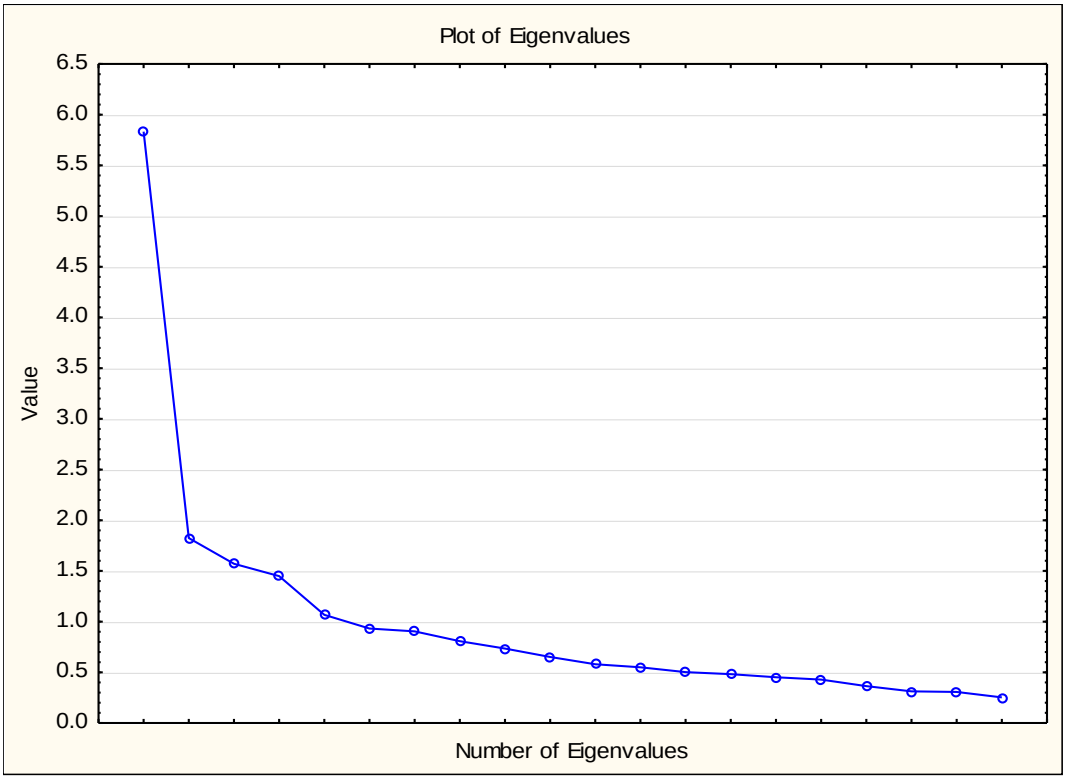

Figure 4.4: Scree plot of eigenvalues: PsyCap Final Factor Structure

Based on the scree plot in Figure 4.4, Table 4.14 shows the eigenvalues of the four factor PsyCap structure after elimination of items.

TABLE 4.14: PsyCap Eigenvalues Final Four Factor Structure

	Eigenvalue	% Total variance	Cumulative Eigenvalue	Cumulative %
1	**5.832106**	29.16053	5.832106	29.16053
2	**1.824629**	9.123144	7.656735	38.28367
3	**1.570526**	7.85263	9.227261	46.1363
4	**1.448737**	7.243686	10.676	53.37999
5	1.067113	5.335563	11.74311	58.71555
6	0.931934	4.65967	12.67504	63.37522
7	0.903648	4.518238	13.57869	67.89346
8	0.807089	4.035445	14.38578	71.92891
9	0.734197	3.670983	15.11998	75.59989
10	0.651016	3.255081	15.77099	78.85497
11	0.580283	2.901414	16.35128	81.75639
12	0.550038	2.750188	16.90131	84.50657
13	0.502213	2.511064	17.40353	87.01764
14	0.481878	2.409389	17.88541	89.42703
15	0.451314	2.256568	18.33672	91.68359
16	0.42842	2.142098	18.76514	93.82569
17	0.364325	1.821626	19.12946	95.64732
18	0.312157	1.560784	19.44162	97.2081
19	0.305956	1.529781	19.74758	98.73788
20	0.252423	1.262117	20	100

The percentages common variance for the factors was: factor 1=62.9%; factor 2=14.88%, factor 3=11.83%; factor 4=10.38%. The percentage of the total variance predicted by the factors was: factor 1=29.2%, factor 2= 9.1%, factor 3= 7.9% and factor 4= 7.2%.

The factor names utilised in the present study retained the factor names (efficacy, hope, resilience and optimism) put forward by Luthans et al. (2007a). Based on the final factor structure in Table 4.13, the factors loaded as follows: factor 1= hope, factor 2= resilience, factor 3= efficacy and factor 4= optimism.

The correlations between the four factors are shown in Table 4.15.

TABLE 4.15: Factor Correlation Matrix- PsyCap Final Four Factor Solution

Factor Correlation Matrix

Factor	1	2	3	4
1	1.000			
2	0.354	1.000		
3	0.498	0.400	1.000	-.035
4	0.061	-0.000	0.174	1.000

Rotation Method: Direct Oblimin Solution.

To improve the fit indices, to reduce error variance and also based on the number of items clustering on the PsyCap factors, item parcelling was applied in the case of factors 2 and 3. The CFA of the four factor structure is shown in Table 4.16.

TABLE 4.16: Results CFA PsyCap Four Factor Final Structure

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	0.033506	0.144605	0.295218
Steiger-Lind RMSEA Index	0.021724	0.04513	0.064483
McDonald Noncentrality Index	0.862769	0.930249	0.983387
Population Gamma Index	0.959533	0.97976	0.995236
Adjusted Population Gamma Index	0.940154	0.970068	0.992955
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.934036		
Joreskog AGFI	0.902447		
Akaike Information Criterion	0.842235		
Schwarz's Bayesian Criterion	1.39798		
Browne-Cudeck Cross Validation Index	0.868962		
Independence Model Chi-Square	971.3101		
Independence Model df	91		
Bentler-Bonett Normed Fit Index	0.893985		
Bentler-Bonett Non-Normed Fit Index	0.952965		
Bentler Comparative Fit Index	0.963679		
James-Mulaik-Brett Parsimonious Fit Index	0.697505		
Bollen's Rho	0.864121		
Bollen's Delta	0.964113		

Based on the results of the indices in Table 4.16, the improved and strengthened four factor structure of PsyCap fits the present data more appropriately than the

original factor structure presented in Table 4.9. Statistically and conceptually the PsyCap items clustered into four clear factors. This measurement structure was therefore applied for the data analyses in the present study.

The new Cronbach alpha co-efficients for the four factor structure that emerged for the present study are as follows: psychological capital full scale= 0.84; hope (factor 1) = 0.81; resilience (factor 2) = 0.74; efficacy (factor 3) = 0.80 and optimism (factor 4) = 0.53. According to the guidelines by Tabachnick and Fidell (2001), the Cronbach alpha coefficients are good for hope and efficacy, adequate for resilience and there is doubt about the internal reliability of the optimism factor. The fourth factor, optimism had few items clustering together and these were all negatively worded.

4.2.3 Psychological Climate

To determine the suitability of the data in the present data for factor analysis and to ensure sampling adequacy, the Keiser-Meyer-Olkin (KMO) measure was applied. According to Tabachnick and Fidell (2001), the KMO index ranges from 0 to 1 and the suggested minimum value for a good factor analysis is .06. For the present study, the KMO index for factor analysis on the psychological climate data was adequate (0.922). A CFA was attempted to determine the fit of the original eight factor structure on the data.

4.2.3.1 CFA Psychological Climate

To determine the contents, validity and reliability of psychological climate, CFA was carried out on the participants' (n=204) responses to the 40 items in the psychological climate measure (Koys & DeCotiis., 1991).

TABLE 4.17: CFA Psychological Climate on Original Eight Factor Structure

	Lower 90%	**Point**	**Upper 90%**
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	2.44816224	2.92858353	3.44760389
Steiger-Lind RMSEA Index	0.058638129	0.064134071	0.069585489
McDonald Noncentrality Index	0.178386641	0.231241707	0.294027752
Population Gamma Index	0.85296562	0.872273683	0.890941529
Adjusted Population Gamma Index	0.830662653	0.852899466	0.874398952
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.756544888		

	Lower 90%	Point	Upper 90%
Joreskog AGFI	0.719616304		
Akaike Information Criterion	7.9369601		
Schwarz's Bayesian Criterion	9.70226531		
Browne-Cudeck Cross Validation Index	8.20625402		
Independence Model Chi-Square	6333.8815		
Independence Model df	780		
Bentler-Bonett Normed Fit Index	0.779723871		
Bentler-Bonett Non-Normed Fit Index	0.864642664		
Bentler Comparative Fit Index	0.87698641		
James-Mulaik-Brett Parsimonious Fit Index	0.711747944		
Bollen's Rho	0.758686263		
Bollen's Delta	0.877929294		

Based on the fit indices in Table 4.17, an eight factor structure is not suitable for the data in the present study. EFAs were conducted in an attempt to extract a more suitable factor structure.

4.2.3.2 EFAs Psychological Climate All Items

The scree plot in Figure 4.5 highlights the distribution of the eigenvalues across the 40 psychological climate items.

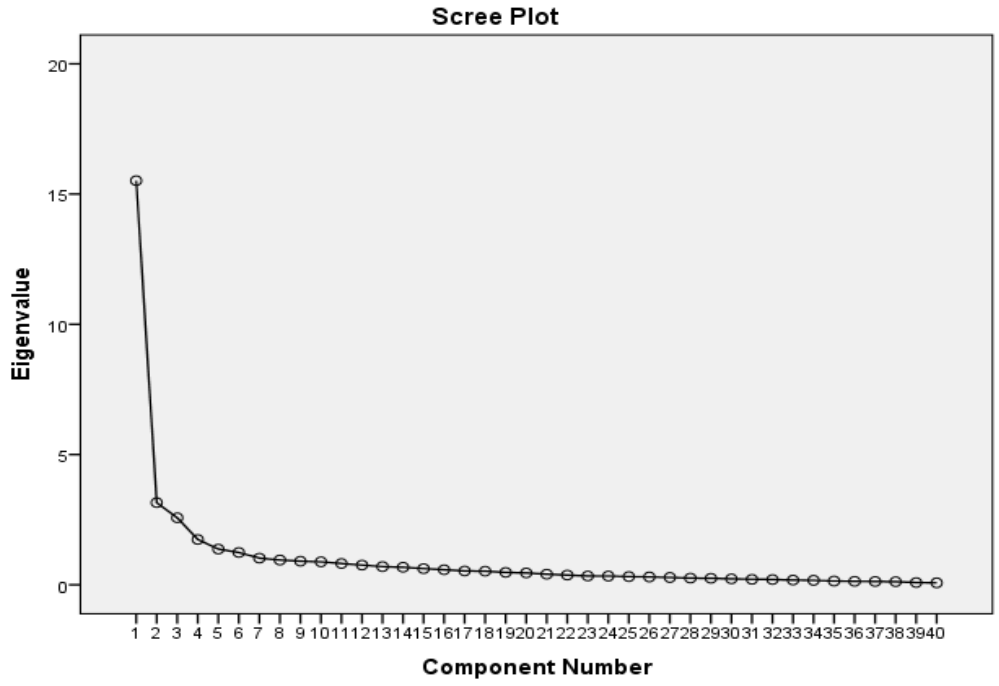

Figure 4.5: Scree plot of eigenvalues: Psychological Climate Original Factor Structure

Based on the scree plot in Figure 4.5 and the eigenvalues shown in Table 4.18, seven possible factors with values above 1 could be extracted from the present data.

TABLE 4.18: Eigenvalues Psychological Climate All Items (n=204)

Total Variance Explained			
Component	**Initial Eigenvalues**		
	Total	% of Variance	Cumulative %
1	**15.514**	38.786	38.786
2	**3.154**	7.884	46.67
3	**2.573**	6.431	53.102
4	**1.738**	4.345	57.447
5	**1.37**	3.426	60.873
6	**1.239**	3.098	63.971
7	1.023	2.557	66.528
8	0.951	2.377	68.905
9	0.905	2.263	71.168
10	0.882	2.204	73.372
11	0.817	2.042	75.414
12	0.758	1.894	77.307
13	0.698	1.744	79.051
14	0.671	1.678	80.73
15	0.621	1.552	82.282
16	0.578	1.445	83.727
17	0.531	1.328	85.055
18	0.521	1.302	86.357
19	0.476	1.19	87.548
20	0.457	1.142	88.689
21	0.406	1.016	89.706
22	0.373	0.932	90.637
23	0.338	0.844	91.482
24	0.335	0.837	92.319
25	0.315	0.788	93.107
26	0.3	0.75	93.857
27	0.281	0.703	94.56
28	0.256	0.64	95.2
29	0.247	0.619	95.819
30	0.229	0.572	96.391
31	0.211	0.527	96.917
32	0.201	0.504	97.421
33	0.18	0.45	97.871
34	0.171	0.428	98.298

Total Variance Explained			
Component	**Initial Eigenvalues**		
35	0.144	0.36	98.658
36	0.133	0.332	98.99
37	0.125	0.312	99.302
38	0.119	0.297	99.6
39	0.086	0.215	99.815
40	0.074	0.185	100

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

Based on the Mineigen criterion, only components with eigenvalues above 1 were retained. From assessing the scree plot in Figure 4.5 and the eigenvalues in Table 4.18, a four factor structure seems more likely when compared with a possible five or six factor structure. Though the five or six factor structure could ideally be attempted based on the eigenvalues above 1, the variance contributed by factors five and six are miniscule hence opting to start the EFAs with a four factor structure.

The decision rules followed to determine the number of factors to be extracted and the items to be included in each factor were as follows: an item not loading >0.30 on any factor would be excluded (Tabachnick & Fidell, 2001); an item loading > 0.30 on more than one factor would be excluded if the difference between the higher and the lower loading is < 0.25 (Nunnally & Bernstein, 1994). Table 4.19 shows the EFA on the four factor structure of psychological climate.

TABLE 4.19: Psychological Climate Four Factor Structure (All Items Round 1)

Item	Factor			
	1	**2**	**3**	**4**
D4.1	0.051	0.049	0.519	0.125
D4.2	0.042	0.008	0.748	-0.144
D4.3	-0.034	0.019	0.743	-0.072
D4.4	-0.041	0.08	0.627	0.138
D4.5	-0.021	-0.02	0.619	0.041
D4.6	0.279	-0.147	0.143	0.41
D4.7	0.026	-0.068	0.077	0.647
D4.8	0.125	-0.029	0.051	0.636
D4.9	0.089	-0.092	0.033	0.692
D4.10	0.203	-0.082	0.032	0.47

Item	Factor			
D4.11	0.518	-0.005	0.001	0.329
D4.12	0.717	0.035	-0.039	0.24
D4.13	0.715	0.004	0.028	0.18
D4.14	0.659	-0.049	0.088	0.175
D4.15	0.639	0.027	0.074	0.178
D4.16	0.237	0.567	0.132	-0.09
D4.17	0.008	0.325	-0.191	-0.137
D4.18	-0.038	0.617	0.016	-0.091
D4.19	0.031	0.75	0.037	-0.018
D4.20	0.084	0.743	0.055	-0.087
D4.21	0.75	-0.057	-0.033	0.03
D4.22	0.72	0.033	0.033	0.157
D4.23	0.826	0.051	-0.003	0.049
D4.24	0.786	0.023	0.066	-0.002
D4.25	0.864	0.038	-0.006	0.001
D4.26	0.763	-0.074	0.07	-0.171
D4.27	0.32	-0.521	-0.004	-0.167
D4.28	0.693	0.038	0.016	0.049
D4.29	0.805	-0.117	0.004	-0.022
D4.30	0.689	0.003	0.088	-0.117
D4.31	0.828	-0.045	0.025	-0.117
D4.32	0.587	-0.281	0.098	-0.035
D4.33	0.234	-0.277	0.046	-0.034
D4.34	0.587	-0.096	-0.089	0.131
D4.35	0.508	-0.1	0.066	0.157
D4.36	0.806	0.007	0.058	0.019
D4.37	0.827	0.056	0.019	0.038
D4.38	0.702	0.055	0.021	-0.118
D4.39	0.822	0.092	-0.022	0.109
D4.40	0.841	0.156	-0.179	0.033

Rotation Method: Direct Oblimin Solution.
Converge after 8 iterations

The EFA on the four factor structure shown in Table 4.19 highlighted two items for elimination. Item 11 cross-loaded on factors one and four while item 33 did not load satisfactorily on any of the four factors. Another round of EFA was conducted with these items eliminated and the results are presented in Table 4.20.

TABLE 4.20: Psychological Climate Four Factor Structure (Two Items Eliminated-Round 2)

Items	Factor Loadings			
	1	2	3	4
D4.1	0.052	0.058	**0.508**	0.146
D4.2	0.052	0.014	**0.743**	-0.130
D4.3	-0.021	0.006	**0.751**	-0.094
D4.4	-0.039	0.093	**0.622**	0.143
D4.5	-0.011	-0.025	**0.621**	0.035
D4.6	0.278	-0.137	0.133	**0.422**
D4.7	0.019	-0.061	0.062	**0.664**
D4.8	0.116	-0.028	0.036	**0.656**
D4.9	0.078	-0.079	0.014	**0.720**
D4.10	0.195	-0.057	0.012	**0.503**
D4.12	**0.719**	0.014	-0.024	0.186
D4.13	**0.721**	-0.017	0.041	0.133
D4.14	**0.667**	-0.069	0.099	0.134
D4.15	**0.643**	0.011	0.082	0.148
D4.16	0.217	**0.590**	0.118	-0.065
D4.17	-0.002	**0.316**	-0.189	-0.142
D4.18	-0.058	**0.616**	0.009	-0.078
D4.19	0.008	**0.742**	0.036	-0.024
D4.20	0.063	**0.736**	0.055	-0.092
D4.21	**0.752**	-0.048	-0.034	0.026
D4.22	**0.719**	0.031	0.029	0.157
D4.23	**0.826**	0.052	-0.007	0.05
D4.24	**0.789**	0.021	0.064	-0.003
D4.25	**0.863**	0.042	-0.013	0.011
D4.26	**0.769**	-0.07	0.064	-0.156
D4.27	**0.343**	-0.533	0.006	-0.183
D4.28	**0.691**	0.036	0.005	0.068
D4.29	**0.809**	-0.105	-0.004	-0.004
D4.30	**0.692**	0.001	0.085	-0.113
D4.31	**0.834**	-0.048	0.025	-0.122
D4.32	**0.601**	-0.286	0.100	-0.043
D4.34	**0.585**	-0.069	-0.095	0.131
D4.35	**0.511**	-0.083	0.063	0.154
D4.36	**0.809**	0.004	0.055	0.021
D4.37	**0.827**	0.054	0.015	0.04
D4.38	**0.698**	0.078	0.008	-0.09
D4.39	**0.818**	0.094	-0.029	0.113
D4.40	**0.833**	0.161	-0.187	0.042

Rotation Method: Direct Oblimin Solution.
Converge after 7 iterations

The EFA in Table 4.20 resulted in a clear four factor structure for psychological climate. Figure 4.6 shows the scree plot and the corresponding eigenvalues are presented in Table 4.21.

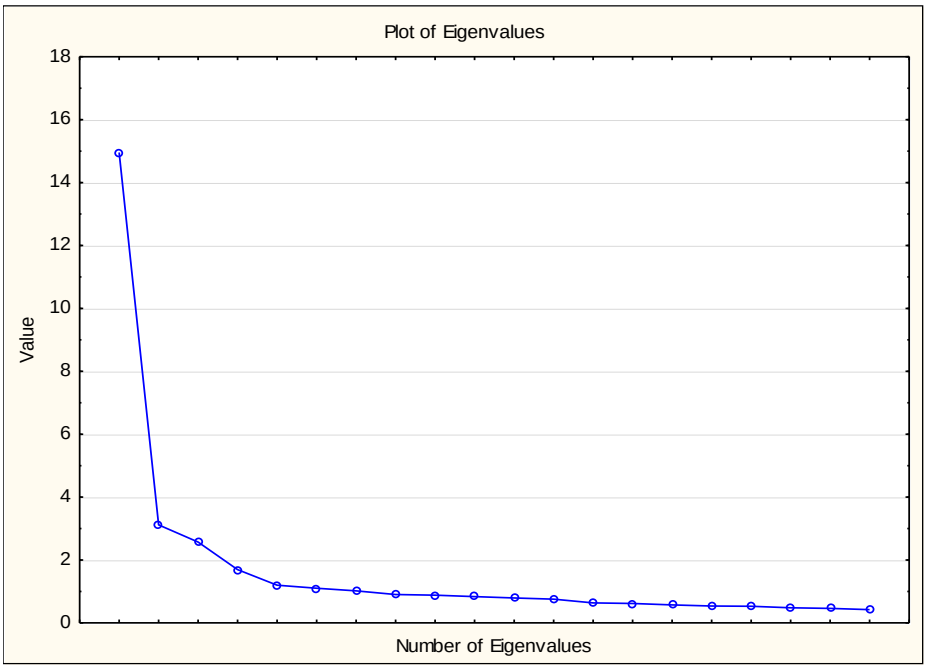

Figure 4.6: Scree plot of eigenvalues: Psychological Climate Final Factor Structure

From the scree plot in Figure 4.6, and the eigenvalues in Table 4.21, four clear factors emerged. The items loaded in a way that made identification of four factors possible in line with some of the dimensions identified by Koys and DeCotiis (1991). The original psychological climate structure by Koys and DeCotiis (1991) had the dimensions of autonomy, cohesion, trust, pressure, support, recognition, fairness and innovation.

In the present study, the factors were identified as follows: factor 1= support, factor 2= pressure, factor 3= autonomy and factor 4= cohesion. Factor 1 (support) was a combination of items from the dimensions of trust, support, recognition, fairness, innovation and collectively renamed support in the present study.

TABLE 4.21: Eigenvalues Psychological Climate Final Four Factor Structure

	Eigenvalue	% Total variance	Cumulative Eigenvalue	Cumulative %
1	**14.95603**	39.35797	14.95603	39.35797
2	**3.116991**	8.202608	18.07302	47.56058
3	**2.570424**	6.764275	20.64344	54.32485
4	**1.693816**	4.457411	22.33726	58.78226
5	1.197621	3.151634	23.53488	61.9339
6	1.102582	2.901531	24.63746	64.83543
7	1.016807	2.675809	25.65427	67.51123
8	0.90352	2.377685	26.55779	69.88892
9	0.881907	2.320808	27.4397	72.20973
10	0.835473	2.198613	28.27517	74.40834
11	0.791797	2.083676	29.06697	76.49202
12	0.754395	1.98525	29.82136	78.47727
13	0.63633	1.674554	30.45769	80.15182
14	0.617057	1.623835	31.07475	81.77565
15	0.572479	1.506524	31.64723	83.28218
16	0.536695	1.412355	32.18392	84.69453
17	0.527846	1.389068	32.71177	86.0836
18	0.478841	1.260109	33.19061	87.34371
19	0.461222	1.213743	33.65183	88.55745
20	0.420706	1.107121	34.07254	89.66458
21	0.359127	0.945071	34.43167	90.60965
22	0.341676	0.899148	34.77334	91.50879
23	0.317587	0.835756	35.09093	92.34455
24	0.314982	0.828899	35.40591	93.17345
25	0.299788	0.788917	35.7057	93.96237
26	0.285257	0.750676	35.99096	94.71304
27	0.254833	0.670614	36.24579	95.38366
28	0.248374	0.653615	36.49416	96.03727
29	0.223324	0.587694	36.71749	96.62496
30	0.204798	0.538943	36.92229	97.16391
31	0.19105	0.502764	37.11334	97.66667
32	0.177514	0.467141	37.29085	98.13381
33	0.156696	0.412358	37.44755	98.54617
34	0.136486	0.359173	37.58403	98.90535
35	0.128506	0.338174	37.71254	99.24352
36	0.12005	0.315922	37.83259	99.55944
37	0.089679	0.235998	37.92227	99.79544
38	0.077733	0.204561	38	100

The percentages of common variance explained by the four factors: factor 1=70.72%, factor 2=13%; factor 3= 10.3% and factor 4= 6.01%. The percentage of total variance predicted by the factors was: factor 1= 39.4%, factor 2= 8.2%, factor 3= 6.8% and factor 4= 4.5%.

Table 4.22 shows the correlation matrix of the four factors.

TABLE 4.22: Psychological Climate- Correlation Matrix

Factor Correlation Matrix				
Factor	**1**	**2**	**3**	**4**
1	1			
2	-0.171	1		
3	0.320	-0.013	1	
4	0.397	-0.251	0.251	1

The relatively low correlations suggest that the factors are independent and measure different dimensions of psychological climate. A CFA was subsequently carried out on the four factor structure as shown in Table 4.17. From the four factor structure that emerged in Table 4.21, item parcelling was applied to reduce error variance, to reduce the number of items loading per factor and to improve the fit of the four factor structure. This means that five parcels of four items each was made for the items in factor one. The remaining three items in factor one formed an additional parcel. No parcels were formed for the items in the other factors.

Table 4.23 shows the results of the CFA on the final psychological climate structure.

TABLE 4.23: Results of CFA: Four Factor Final Psychological Climate Structure

	Lower 90%	**Point**	**Upper 90%**
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	0.531628	0.767379	1.041696
Steiger-Lind RMSEA Index	0.053899	0.064756	0.075448
McDonald Noncentrality Index	0.594017	0.681343	0.766582
Population Gamma Index	0.909745	0.931894	0.951809
Adjusted Population Gamma Index	0.886072	0.91403	0.939168

	Lower 90%	Point	Upper 90%
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.862858		
Joreskog AGFI	0.826887		
Akaike Information Criterion	2.242812		
Schwarz's Bayesian Criterion	3.027393		
Browne-Cudeck Cross Validation Index	2.300293		
Independence Model Chi-Square	2407.758		
Independence Model df	210		
Bentler-Bonett Normed Fit Index	0.850778		
Bentler-Bonett Non-Normed Fit Index	0.907526		
Bentler Comparative Fit Index	0.919786		
James-Mulaik-Brett Parsimonious Fit Index	0.741392		
Bollen's Rho	0.828761		
Bollen's Delta	0.920388		

A promising fit emerged from the CFA indices in Table 4.23. The fit indices seemed to be higher than those for the original factor structure in Table 4.17. The four factor structure was therefore applied for data analyses in the present study. To confirm the internal reliability of the scales used in the study, the Cronbach alpha co-efficients for the new four factor structure were calculated.

The psychological climate scale was 0.93, support (factor 1) = 0.97; pressure (factor 2) = 0.74; autonomy (factor 3) = 0.77 and cohesion (factor 4) = 0.83. According to the guidelines by Tabachnick and Fidell (2001), the Cronbach alpha co-efficients for the final psychological climate structure are: excellent for the full measure, excellent for support, good for cohesion and adequate for autonomy and pressure.

4.2.4 Team commitment

To determine the suitability of the present data for factor analysis and to ensure sampling adequacy, the Keiser-Meyer-Olkin (KMO) measure was applied. According to Tabachnick and Fidell (2001), the KMO index ranges from 0 to 1 and the suggested minimum value for a good factor analysis is .06. The sampling adequacy (0.873) for the team commitment measure was well above the required level and

factor analysis could be applied. A CFA on the responses of the present sample on the original factor structure was calculated.

4.2.4.1 CFA Team Commitment

A CFA was carried out on the participants (n=204) responses to the 35 items in the team commitment measure (Bennett, 2000). The results of the CFA are presented in Table 4.24.

TABLE 4.24: Results CFA Team Commitment on Original Three Factor Structure

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	7.27611351	7.96297811	8.68717379
Steiger-Lind RMSEA Index	0.114293659	0.119566678	0.124885397
McDonald Noncentrality Index	0.012989851	0.018657836	0.026303408
Population Gamma Index	0.668266081	0.687272319	0.706325469
Adjusted Population Gamma Index	0.624789284	0.646286464	0.667836707
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.6204173		
Joreskog AGFI	0.570669478		
Akaike Information Criterion	8.77257978		
Schwarz's Bayesian Criterion	9.96579535		
Browne-Cudeck Cross Validation Index	8.92761946		
Independence Model Chi-Square	3987.46195		
Independence Model df	595		
Bentler-Bonett Normed Fit Index	0.590006446		
Bentler-Bonett Non-Normed Fit Index	0.660042919		
Bentler Comparative Fit Index	0.682285693		
James-Mulaik-Brett Parsimonious Fit Index	0.552325362		
Bollen's Rho	0.562035611		
Bollen's Delta	0.685259671		

The fit indices in Table 4.24 on the original three factor structure indicate a poor fit but could be strengthened. EFAs were conducted to improve and strengthen the fit.

4.2.4.2 EFA Team Commitment

The scree plot in Figure 4.7 highlights the distribution of the eigenvalues.

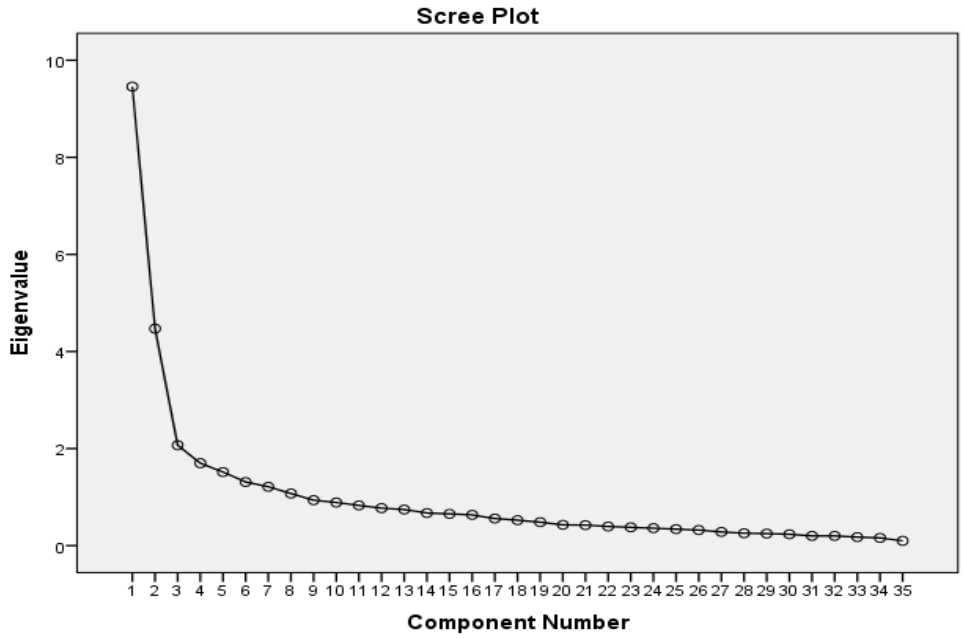

Figure 4.7: Scree plot of eigenvalues: Team Commitment Original Factor Structure

The eigenvalues in Table 4.25 indicate that a possible seven factor structure could be extracted from the present data.

TABLE 4.25: Eigenvalues with all Team Commitment Items (n=204)

Total Variance Explained			
Component	**Initial Eigenvalues**		
	Total	% of Variance	Cumulative %
1	**9.457**	27.019	27.019
2	**4.471**	12.775	39.795
3	**2.068**	5.909	45.703
4	**1.698**	4.853	50.556
5	**1.516**	4.332	54.887
6	**1.311**	3.745	58.632
7	**1.213**	3.465	62.097
8	1.073	3.065	65.162
9	0.937	2.676	67.838
10	0.889	2.54	70.378
11	0.828	2.366	72.744
12	0.772	2.206	74.951

Total Variance Explained			
Component	Initial Eigenvalues		
13	0.743	2.123	77.074
14	0.673	1.921	78.995
15	0.655	1.871	80.866
16	0.634	1.811	82.678
17	0.558	1.595	84.273
18	0.525	1.499	85.772
19	0.483	1.379	87.151
20	0.429	1.225	88.376
21	0.423	1.209	89.586
22	0.394	1.125	90.71
23	0.377	1.077	91.787
24	0.359	1.027	92.814
25	0.34	0.973	93.787
26	0.321	0.917	94.704
27	0.281	0.804	95.508
28	0.256	0.731	96.239
29	0.249	0.711	96.95
30	0.233	0.667	97.616
31	0.201	0.574	98.19
32	0.199	0.569	98.759
33	0.176	0.503	99.261
34	0.159	0.455	99.716
35	0.099	0.284	100

According to Bennett (2000), the original factor structure of the team commitment instrument contained three factors and the CFA indices in Table 4.24 indicate a poor fit. Though seven factors could be extracted, a three factor structure, in line with the original structure, was first attempted as shown in Table 4.26.

TABLE 4.26: Team Commitment Three Factor Structure All Items (Round 1)

Items	Factor Loadings		
	1	2	3
E5.1	-0.12	0.029	0.659
E5.2	-0.011	0.092	0.749
E5.3	0.02	0.101	0.693
E5.4	0.181	-0.086	0.48
E5.5	0.183	-0.089	0.508
E5.6	0.384	-0.11	0.16
E5.7	-0.161	-0.034	0.739
E5.8	0.1	0.176	0.66

Items	Factor Loadings		
	1	2	3
E5.9	0.133	-0.082	0.517
E5.10	0.167	0.06	0.473
E5.11	0.071	-0.011	0.191
E5.12	-0.024	0.425	0.17
E5.13	-0.039	0.531	0.149
E5.14	-0.133	0.162	-0.179
E5.15	-0.138	0.619	0.069
E5.16	-0.202	0.484	0.051
E5.17	-0.002	0.681	0.06
E5.18	-0.04	0.553	-0.223
E5.19	0.053	0.684	-0.134
E5.20	-0.042	0.628	-0.054
E5.21	0.122	0.506	-0.1
E5.22	0.062	0.493	0.027
E5.23	0.106	0.253	0.293
E5.24	0.348	0.449	0.004
E5.25	0.307	0.558	-0.022
E5.26	0.641	0.185	0.001
E5.27	0.354	0.485	0.091
E5.28	0.275	0.577	-0.008
E5.29	0.404	0.436	0.128
E5.30	0.308	0.563	0.096
E5.31	0.696	0.055	0.061
E5.32	0.767	0.004	0.092
E5.33	0.789	-0.053	0.006
E5.34	0.577	0.107	0.243
E5.35	0.586	0.105	0.277

Rotation Method: Direct Oblimin Solution.
Converge after 10 iterations

The EFA in Table 4.26 on the three factor structure resulted in three items being eliminated due to cross loading and three items due to no loadings on any factor. Further rounds of EFAs were conducted to strengthen the structure as shown in Table 4.27.

TABLE 4.27: Team Commitment Three Factor Structure (Six Items Eliminated -Round 2)

Items	Factor Loadings		
	1	2	3
E5.1	-0.087	0.027	0.653
E5.2	0.026	0.08	0.739
E5.3	0.051	0.081	0.688
E5.4	0.236	-0.067	0.448
E5.5	0.232	-0.086	0.477
E5.6	0.412	-0.113	0.143
E5.7	-0.126	-0.033	0.737
E5.8	0.14	0.164	0.641
E5.9	0.177	-0.097	0.489
E5.10	0.202	0.034	0.45
E5.12	-0.008	0.442	0.162
E5.13	-0.017	0.542	0.154
E5.15	-0.125	0.641	0.067
E5.16	-0.189	0.504	0.065
E5.17	0.006	0.683	0.069
E5.18	-0.031	0.579	-0.223
E5.19	0.08	0.709	-0.139
E5.20	-0.026	0.652	-0.044
E5.21	0.139	0.502	-0.109
E5.22	0.065	0.469	0.023
E5.24	0.358	0.422	0
E5.25	0.312	0.535	-0.021
E5.26	0.647	0.155	-0.008
E5.28	0.248	0.523	0.018
E5.31	0.714	0.054	0.043
E5.32	0.793	0.008	0.073
E5.33	0.814	-0.046	-0.011
E5.34	0.599	0.095	0.227
E5.35	0.605	0.09	0.264

Rotation Method: Direct Oblimin Solution.
Converge after 9 iterations

The factor pattern indicated two further items (E5.24 and E5.25) that were cross loading and required elimination. The next round of EFA was carried out with the eight unacceptable items eliminated. The resulting factor structure is shown in Table 4.28.

TABLE 4.28: Team Commitment Three Factor Structure Items (Eight Items Eliminated-Round 3)

Items	Factor Loadings		
	1	2	3
E5.1	-0.081	0.028	**0.652**
E5.2	0.039	0.084	**0.730**
E5.3	0.051	0.075	**0.688**
E5.4	0.255	-0.062	**0.424**
E5.5	0.24	-0.083	**0.462**
E5.6	**0.422**	-0.111	0.12
E5.7	-0.127	-0.033	**0.741**
E5.8	0.131	0.148	**0.650**
E5.9	0.172	-0.102	**0.488**
E5.10	0.183	0.017	**0.463**
E5.12	-0.003	**0.435**	0.166
E5.13	0.009	**0.545**	0.143
E5.15	-0.093	**0.655**	0.057
E5.16	-0.154	**0.513**	0.05
E5.17	0.031	**0.684**	0.061
E5.18	-0.023	**0.572**	-0.218
E5.19	0.105	**0.708**	-0.148
E5.20	0.014	**0.666**	-0.063
E5.21	0.137	**0.492**	-0.099
E5.22	0.045	**0.451**	0.048
E5.26	**0.647**	0.145	-0.023
E5.28	0.244	**0.502**	0.026
E5.31	**0.734**	0.056	0.008
E5.32	**0.825**	0.019	0.026
E5.33	**0.844**	-0.035	-0.06
E5.34	**0.625**	0.102	0.190
E5.35	**0.634**	0.099	0.224

Rotation Method: Direct Oblimin Solution.
Converge after 9 iterations

The factor structure in Table 4.28 had all items loading satisfactorily and uniquely on three factors.

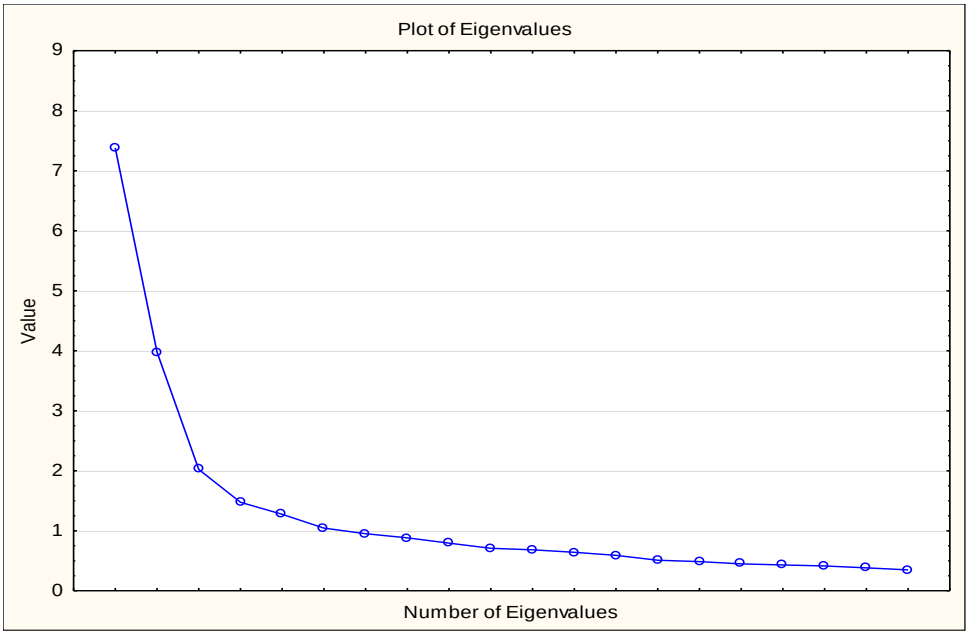

Figure 4.8: Scree plot of eigenvalues: Team Commitment Final Factor Structure

Based on the scree plot in Figure 4.8, the eigenvalues for the three factor team commitment structure as presented in Table 4.29.

TABLE 4.29: Eigenvalues Final Team Commitment Three Factor Structure

	Eigenvalue	% Total variance	Cumulative Eigenvalue	Cumulative %
1	**7.379287**	27.33069	7.379287	27.33069
2	**3.978895**	14.73665	11.35818	42.06734
3	**2.022026**	7.488984	13.38021	49.55632
4	1.474036	5.459392	14.85424	55.01572
5	1.274485	4.720314	16.12873	59.73603
6	1.044538	3.86866	17.17327	63.60469
7	0.951061	3.522449	18.12433	67.12714
8	0.882591	3.268855	19.00692	70.39599
9	0.793749	2.939812	19.80067	73.33581
10	0.707875	2.62176	20.50854	75.95757
11	0.682522	2.527859	21.19106	78.48542
12	0.641079	2.374367	21.83214	80.85979
13	0.59047	2.186928	22.42261	83.04672
14	0.509294	1.886275	22.93191	84.93299
15	0.485652	1.798712	23.41756	86.73171
16	0.44832	1.660445	23.86588	88.39215
17	0.43057	1.594705	24.29645	89.98686
18	0.413021	1.529706	24.70947	91.51656
19	0.382501	1.416671	25.09197	92.93323
20	0.348453	1.290567	25.44043	94.2238

	Eigenvalue	% Total variance	Cumulative Eigenvalue	Cumulative %
21	0.310388	1.149585	25.75081	95.37339
22	0.283479	1.049921	26.03429	96.42331
23	0.262832	0.973453	26.29712	97.39676
24	0.220647	0.817212	26.51777	98.21397
25	0.203198	0.752586	26.72097	98.96656
26	0.176064	0.65209	26.89703	99.61865
27	0.102966	0.381354	27	100

The percentages common variance predicted by the three factors selected for this study was: factor 1=58.33%, factor 2=29.2% and factor 3=12.5%. The percentage of total variance predicted by the factors was: factor 1=27.3%, factor 2= 14.7% and factor 3= 7.5%. The three factors retained the original factor names (affective, continuance and normative commitment).

However, in the present study the items loaded on the factors as follows: factor 1=normative commitment, factor 2=continuance commitment and factor 3=affective commitment. Table 4.30 shows the correlations between the three team commitment factors.

TABLE 4.30: Three factor Correlation Matrix

Factor	1	2	3
1	1		
2	0.201	1	
3	0.485	0.080	1

Based on the three factor structure that emerged in Table 4.28, item parcelling was applied to reduce error variance, to reduce the items loading onto the factors and to improve the fit of the three factor structure on the present data. This means that two parcels of two items each were made for items in factor one. The remaining three items in factor one formed an additional parcel.

A similar principle was applied in factor two where five parcels emerged. Four of the parcels had two items each and the fifth parcel had three items. In factor three, four parcels emerged. Three parcels had two items each and the fourth item had three items. The results of the CFA on the final team commitment three factors are presented in Table 4.31.

TABLE 4.31: Results CFA Team Commitment on Final Three Factor Structure

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	0.139202055	0.264687373	0.428443705
Steiger-Lind RMSEA Index	0.052244158	0.072041297	0.091656189
McDonald Noncentrality Index	0.807169293	0.87603986	0.932765894
Population Gamma Index	0.933351877	0.957749309	0.977325709
Adjusted Population Gamma Index	0.898067577	0.935381296	0.965321672
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.920821773		
Joreskog AGFI	0.878903889		
Akaike Information Criterion	0.808885939		
Schwarz's Bayesian Criterion	1.25021224		
Browne-Cudeck Cross Validation Index	0.827086613		
Independence Model Chi-Square	1173.83384		
Independence Model df	66		
Bentler-Bonett Normed Fit Index	0.906116316		
Bentler-Bonett Non-Normed Fit Index	0.930569184		
Bentler Comparative Fit Index	0.946558912		
James-Mulaik-Brett Parsimonious Fit Index	0.70018079		
Bollen's Rho	0.878503468		
Bollen's Delta	0.947061971		

From the indices in Table 4.31, the improved three factor structure of team commitment as developed by the EFA procedures carried out emerged as a better fit. The better fit is in comparison to the CFA on the original team commitment factor structure presented in Table 4.24. Statistically and conceptually, the three factor structure was more meaningful for the data in the present study. To confirm the internal reliability of the final factor structure after elimination, new Cronbach alpha coefficients were calculated.

The new Cronbach alpha co-efficients for the team commitment scale was 0.87, normative commitment (factor 1) = 0.89; continuance commitment (factor 2) = 0.84 and affective commitment (factor 3) = 0.85. According to the guidelines by Tabachnick and Fidell (2001), the reliability co-efficients for the full scale and sub scales of team commitment are good.

Further analyses on the new team commitment structure will be presented later.

4.2.5 Intention to Quit

The intention to quit measure, which has three items, retained its original structure in the measurement model. The Cronbach alpha coefficient for intention to quit in the present study is 0.896. According to the guidelines by Tabachnick and Fidell (2001) the reliability co-efficient for intention to quit is excellent.

4.2.6 Summary Portability of Measurement Instruments

The composite questionnaire applied in the present utilised the measurement instruments in their original structures as developed in the US. When comparing the factor structures that emerged on the present data, South African respondents perceived the measurement instruments differently from the validation samples as discussed previously. Across all measurement instruments, interpretable factor structures emerged after several rounds of EFAs were conducted to strengthen and improve the factor structure.

Proposition 1 can, to a certain extent, be accepted because the content of the constructs used in the present study was partly comparable to the content identified by the developers of the research instruments.

4.2.6 Summary of Descriptive Statistics for Measurement Instruments

TABLE 4.32: Descriptive Statistics of the Measuring Instruments as Used in the Present Study

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
Variable	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AL1	204	33	3	36	22.2494	6.96209	-0.434	0.17	-0.005	0.339
AL2	204	12	0	12	7.8518	2.36201	-0.622	0.17	0.465	0.339
PCap1	204	20	10	30	23.7556	3.83244	-0.76	0.17	0.687	0.339
PCap2	204	22	14	36	28.3765	3.95585	-0.546	0.17	0.752	0.339
PCap3	204	24	12	36	29.1178	4.20663	-0.771	0.17	1.384	0.339
PCap4	204	12	6	18	11.9741	2.87096	0.032	0.17	-0.65	0.339
PClim1	204	138	23	161	116.425	27.3109	-0.996	0.17	0.972	0.339
PClim2	204	29	6	35	20.2118	6.61494	0.181	0.17	-0.687	0.339
PClim3	204	26	9	35	26.2421	5.45231	-0.912	0.17	0.468	0.339
PClim4	204	29	5	34	22.9757	5.79964	-0.566	0.17	-0.277	0.339
TC1	204	38	11	49	38.991	7.02207	-1.44	0.17	2.619	0.339
TC2	204	60	11	71	42.9981	12.60481	0.053	0.17	-0.504	0.339

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
Variable	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TC3	204	36	27	63	50.8117	8.60608	-0.705	0.17	-0.095	0.339
AL_Tot	204	41	7	48	30.1012	8.57631	-0.261	0.17	-0.227	0.339
PCap_Tot	204	65	54	119	93.2241	10.52475	-0.311	0.17	0.592	0.339
PClim_Tot	204	176	68	244	185.8545	32.40989	-0.956	0.17	0.835	0.339
TC_Tot	204	123	56	179	132.8008	20.59143	-0.511	0.17	0.913	0.339
ITQ_Tot	204	12	3	15	7.1478	3.4338	0.504	0.17	-0.631	0.339

In light of multivariate techniques being applied in the analysis of the present data, Hair et al. (2010) highlight the importance of fulfilling statistical requirements such as normality of the data and sample size. In addition, Hair et al. (2010) explain that normality of the data has negligible effects in sample size reaching 200 cases or more.

The statistics in Table 4.32 show the data in the present study tended to be negatively skewed. The sample size (n=204) is above the guideline suggested by Hair et al. (2010) for multivariate analysis. Furthermore the indices and the distribution of the data in Table 4.32 suggest multivariate techniques could be applied. The results of the multivariate techniques applied in answering the results questions in the present study are presented in the following sections.

4.3 Research Question 1b

Research Question	Analysis Utilised
Research Question 1b: • Will biographical variables influence the perception of all measures (authentic leadership behaviours, PsyCap, Psychological Climate, Team Commitment) within the selected South African organisation? • Biographical variables are: *reporting unit, tenure, age, gender, home language, marital status, population group, highest educational qualification*	• Descriptive Stats • Correlation in case of non categorical variables • t- test (two groups) • ANOVA (more than two groups) • Scheffé Post Hoc Test • Cohen's d

Utilising the various statistical procedures listed above, the demographic scores of the different groups were analysed to determine if any significant differences in their scores on the psychometric variables emerged. Cohen's d was calculated where significant results occurred to determine the effect size (Gravetter & Wallnau, 2009).

According to Gravetter and Wallnau (2009), the guideline for interpreting Cohen's d is shown in Table 4.33.

TABLE 4.33: Cohen's d Effect Sizes

Statistic	Small	Moderate	Large
Cohen's d	0.2 < d < 0.5	0.5 < d < 0.8	d > 0.8

The Scheffé test was applied where significant differences occurred when comparing differences amongst more than two groups. According to Kerlinger and Lee (2000), the Scheffé test is used with discretion as a general method that can be applied to all comparisons of means after an analysis of variance. Kerlinger and Lee (2000) explain that testing the difference between means can only be done if the F-test is significant.

In addition, Kerlinger and Lee (2000) state that the Scheffé test is the most conservative test available for multiple comparison tests and has the lowest probability of committing a Type 1 error. Only significant relationships between scores of demographic groups on the psychometric variables are reported in the next section.

4.3.1 Reporting Unit

Table 4.34 summarises the differences between the scores of the two reporting units.

TABLE 4.34: Relationship between Reporting Units and Scores on Psychological Climate –Pressure Subscale (t-test)

t-tests; Grouping: Reporting Unit Code									
	Mean	Mean	t-value	df	p	Valid N	Valid N	Std.Dev.	Std.Dev.
	1	2				1	2	1	2
Pressure (Psychological Climate)	16.22	21.27	-4.48	160	0.00001	41	121	5.34	6.51

A significant relationship was found between membership of a reporting unit and pressure (sub scale of psychological climate). The respondents in the manufacturing reporting unit reported that their work environment was more pressured when

comparing with respondents from the sales and marketing reporting unit. The Cohen's d for the difference between the scores of the reporting units was (0.81) indicating a large effect size.

4.3.2 Tenure

The correlation coefficient for the relationship between length of tenure (service) and authentic leadership, psychological capital, psychological climate and team commitment is shown in Table 4.35.

TABLE 4.35: Relationship between Tenure (service) and Variables in the Present Study (Correlation Coefficient)

N= 189	Self Confidence (AL1_Tot)	Resilience (PCap2_Tot)	Support (PClim1_Tot)	Pressure (PClim2_Tot)	Continuance Commitment (TC2_Tot)	Authentic Leadership (AL_Tot)	Team Commitment (TC_Tot)
Tenure	-0.19	0.14	-0.15	0.18	0.18	-0.17	0.16

Significant relationships were found between tenure and the scores on several scales and sub scales. Using Guilford's (1956) guideline on interpreting significant correlations, the values in Table 4.35 are below 0.20 indicating almost negligible relationships. Furthermore low negative correlations were found between length of tenure and scores on self-confidence of the leader (authentic leadership) and support (psychological climate).

This relationship indicates that as length of tenure increases the self-confidence of, and perceived support from, the leader in the research organisation reduces. These correlations are, however, so low that not much value cannot be attached to these findings.

4.3.3 Age

Table 4.36 shows the significant relationship between age and the scores on scales and sub scales.

TABLE 4.36: Age and Variables in the Present Study (Correlation)

N= 192	Pressure (PClim2_Tot)	Continuance Commitment (TC2_Tot)	Team Commitment (TC_Tot)	Intention To Quit (ITQ_Tot)
Age in Years	0.14	0.22	0.19	-0.19

From the findings in Table 4.36, it can be seen that age is significantly related to pressure (psychological climate); continuance commitment (team commitment); and negatively related to intention to quit. According to the Guilford (1956) guidelines, age and the variables above have a statistically significant but almost negligible relationship.

4.3.4 Home Language

Table 4.37 summarises the significant differences between home language groups and the scores on scales and sub scales applied.

TABLE 4.37: Relationship between Home Language Groups Scores on Psychometric Scales and Sub Scales

Psychometric Scales and Sub Scales (N=204)	F	p
Self Confidence (Authentic Leadership1_Tot)	8.26	0.00037
Integrity (Authentic Leadership2_Tot)	3.51	0.03212
Autonomy (Psychological Climate3_Tot)	13.74	0.00000
Cohesion (Psychological Climate4_Tot)	3.69	0.02697
Authentic Leadership (Authentic Leadership_Tot)	8.01	0.00047
Psychological Climate (Psychological Climate_Tot)	3.87	0.02261

The results in Table 4.37 show means that were statistically significant were found between the scores of different home language groups and the scores on scales and sub scales of authentic leadership and psychological climate. To identify the differences that contribute to the significant relationships more precisely, results of the Scheffé test are presented in Table 4.38.

TABLE 4.38: Authentic Leadership Sub Scales (Scheffé Test and Cohen's d)

Scheffé Test: Self Confidence (AL_1 Total)					Scheffé Test: Authentic Leadership Total		
	Afrikaans {1}	**English {2}**	**Xhosa {3}**		**Afrikaans {1}**	**English {2}**	**Xhosa{3}**
	M=21.049	**M=24.576**	**M=19.625**		**M=28.543**	**M=32.887**	**M=26.813**
Afrikaans {1}		***d=0.5***				***d=0.49***	
English {2}	p=0.006816		***d=0.77***		p=0.007737		***d=0.73***
Xhosa {3}	p=0.611755	p=0.002599			p=0.627412	p=0.003152	

The Scheffé test showed significant differences between the English and Afrikaans speakers in terms of perceived self-confidence of the leader and the scale score on authentic leadership (p=0.007).

Other significant differences are between Xhosa and English speaking respondents in terms of perceived self-confidence of the leader and the authentic leadership scale (p=0.003). The Cohen's d, for the scale and sub scales of authentic leadership indicate that the effect sizes of the differences in home language and authentic leadership are respectively moderate and large (0.49 – 0.77).

Though a significant difference emerged in the ANOVA of integrity (authentic leadership sub scale) and home language groups as presented in Table 4.38, applying the Scheffé test did not yield a significant difference.

Other differences contributing to the significant differences in the scores between home language groups presented in Table 4.38 were the scale and sub scales of psychological climate. The results of the Scheffé test are presented in Table 4.39.

TABLE 4.39: Psychological Climate Subscales and Home Language Groups (Scheffé Test and Cohen's d)

Scheffé Test; Autonomy (PsyClim3_Tot)				Scheffé Test: Cohesion (PsyClim4_Total)			Scheffé Test: Psychological Climate Total		
	Afrik {1}	Eng {2}	Xhosa{ 3}	Afrik {1}	Eng {2}	Xho {3}	Afrik {1}	Eng {2}	Xho {3}
	M=26.442	M=27.748	M= 22.372	M= 23.267	M= 23.476	M= 20.469	M=183.78	M=192.11	M=174.13
Afrikans {1}			*d=0.76*						
English {2}	p=0.26775		*d=1.76*	0.97357		*d=0.52*	p=0.277624		*d=0.54*
Xhosa {3}	p=0.00068	p=0.000003		0.06142	0.03626		p=0.363038	p=0.027754	

Significant differences emerged between Afrikaans and Xhosa as well as English and Xhosa speakers in terms of their perception of autonomy and cohesion (psychological climate). Cohen's d indicates that these differences range between moderate and large (0.52 – 1.76). The English speaking respondents were more positive than Xhosa speakers in terms of their perception of the variable measured by scale and the sub scales of psychological climate that is autonomy and cohesion.

4.3.5 Marital Status

Table 4.40 shows the differences between marital status groups and the scores on the team commitment sub scale of continuance commitment and the psychological capital scale.

TABLE 4.40 Relationships between Marital Status Groups and Scores on Continuance Commitment and Psychological Capital

	Mean	Mean	t-value	df	p	Valid N	Valid N	Std.Dev.	Std.Dev.	Cohen's d
	Married	Single				Married	Single	Married	Single	
Continuance Commitment (TC2_Tot)	44.49	40.81	2.02	198	0.04481	122	78	12.44	12.80	***d=0.29***
Psychological Capital (PCap_Tot)	91.78	95.00	-2.13	198	0.03470	122	78	10.88	9.68	***d=0.31***

Significant differences emerged between the two marital status groups and scores on continuance commitment and the scale of psychological capital. The married respondents had a higher mean score on their continuance commitment when compared to the single respondents.

In contrast, the respondents who were single had a slightly higher mean score for psychological capital. The effect sizes of the difference for psychological capital were 0.29 and 0.31. According to the guidelines for Cohen's d, these are small effect sizes.

4.3.6 Population Group

Table 4.41 shows the differences between population groups and the scales and sub scales of the measures applied in the present study:

TABLE 4.41: Significant Differences of Scores of Population Groups

N=204	F	p
Self Confidence (Authentic Leadership1_Tot)	4.06	0.0187
Pressure (Psychological Climate2_Tot)	4.61	0.01109
Autonomy (Psychological Climate3_Tot)	8.02	0.00046
Cohesion (Psychological Climate4_Tot)	3.92	0.02147
Affective Commitment (Team Commitment3_Tot)	3.24	0.04132

N=204	F	p
Authentic Leadership (Authentic Leadership _Tot)	3.65	0.02780
Psychological Climate (Psychological Climate _Tot)	4.08	0.01840
Intention to Quit (Intention To Quit _Tot)	7.11	0.00106

Utilising ANOVA, significant differences as shown in Table 4.41 were found on some of the scores on the scales and sub scales of authentic leadership, psychological climate, team commitment and intention to quit. The Scheffé test and Cohen's d were calculated to determine the level of strength of the effects.

The results of the Scheffé tests differences are shown in Table 4.42, Table 4.43 and Table 4.45.

TABLE 4.42: Authentic Leadership and Population Groups (Scheffé Test and Cohen's d)

Scheffé Test: Self Confidence (AL1_Total)				Scheffé Test: Authentic Leadership Total		
	Black {1}	**Coloured{2}**	**White{3}**	**Black {1}**	**Coloured{2}**	**White{3}**
	M=19.433	**M=23.236**	**M=22.672**	**M=26.798**	**M=31.244**	**M=30.561**
Black {1}		NA	***d=0.49***			***d=0.47***
Coloured {2}	p=0.069269		NA	p=0.088539		
White {3}	p=0.030297	p=0.92022		p=0.043424	p=0.922218	

Black and White respondents differed significantly in terms of their scores on the sub scale self-confidence and also in their scores on the authentic leadership scale. The values of Cohen's d indicated moderate effects.

TABLE 4.43: Psychological Climate Subscales and Population Group (Scheffé Test and Cohen's d)

Scheffé Test: Pressure (PsyClim2_Total)				Scheffé Test: Autonomy (PsyClim3_Total)			Scheffé Test: Cohesion Total		
	Black {1}	**Col {2}**	**White {3}**	**Black {1}**	**Colourd{2}**	**White {3}**	**Black {1}**	**Colourd{2}**	**White {3}**
	M=18.596	**M=18.735**	**M= 21.626**	**M= 23.331**	**M= 25.945**	**M= 27.197**	**M= 21.026**	**M=21.951**	**M=23.766**
Black {1}			***d=0.47***			***d=0.74***			***d=0.49***

Scheffé Test: Pressure (PsyClim2_Total)				Scheffé Test: Autonomy (PsyClim3_Total)			Scheffé Test: Cohesion Total		
Coloured {2}	p=0.996216			p=0.13682			p= 0.80581		
White {3}	p=0.040062	p=103433		p=0.00048	p=0.52596		p= 0.03435	p= 0.31581	

There are significant differences between Black and White respondents in terms of the psychological climate sub scales scores of pressure, autonomy and cohesion. The Cohen's d ranges between 0.47 and 0.74 indicating moderate effect sizes.

TABLE 4.44: Psychological Climate Scale, Intention to Quit Scale and Population Group (Scheffé Test and Cohen's d)

Scheffé Test Psychological Climate Total				Scheffé Test: Intention to Quit		
	Black {1}	**Coloured{2}**	**White{3}**	**Black {1}**	**Coloured {2}**	**White {3}**
	M=175.22	**M=180.19**	**M=190.54**	**M=8.4103**	**M=8.3214**	**M=6.4930**
Black {1}			***d=0.51***			***d=0.58***
Coloured {2}	p=0.81472			p=0.99404		***d=0.58***
White {3}	p=0.03086	p=0.28941		p=0.00735	p=0.0311	

Significant differences emerged between the Black and White respondents in terms of their scores on the scale of psychological climate. The White respondents had a higher mean score indicating a more positive perception of the psychological climate in the organisation.

There were significant differences between Black and White respondents; as well as Coloured and White respondents in terms of their scores on intention to quit. The White respondents had the lowest mean when compared to the Black and Coloured respondents indicating a lower intention of leaving the organisation. The Cohen's d values highlight the moderate effect size of the differences between the population groups on both variables.

4.3.7 Highest Educational Qualification

Table 4.45 shows the significant differences between the scores of educational levels on the scale of the team commitment measure.

TABLE 4.45: Educational Level and Variables in the Present Study (ANOVA)

Analysis of Variance: Educational Level		
Variable	**F**	**p**
Team Commitment (TC_Tot)	2.66466	0.033818

The educational levels compared in the study were Grade 10, Grade 12, Post Matric and Diploma, Bachelor's Degree and an Honours/ Masters Degree. Utilising ANOVA, a significant difference between educational levels as shown in Table 4.45 was found on the scores of the team commitment measure. The Scheffé test was calculated to determine the level of the strength of the effects.

Though the results from the ANOVA yielded a significant difference between educational levels and team commitment, results from the Scheffé test were not significant.

4.3.8 Accepting Research Proposition 1b

The research proposition 1b can be accepted because some significant differences emerged between the scores of biographical groups and the psychometric measures used in the study. It is notable that no gender differences were detected.

4.4 Product Moment Correlations

To determine the relationship between the scales and sub scales in the present study, regression and multiple regression analyses were applied. Pearson product moment correlation coefficients were utilised to determine the strength of the linear relationship between two variables.

In the present study, the guideline by Guilford (1956) was applied to evaluate the obtained correlation coefficients.

TABLE 4.46: Classification of Significant Correlations (Guilford, 1956)

r Value	Interpretation
Less than .20	Slight, almost negligible relationship
.20 - .40	Low correlation; definite but small relationship
.40 - .70	Moderate correlation; substantial relationship
.70 - .90	High correlation; marked relationship
.90 – 1.00	Very high correlation; very dependable relationship

Table 4.47 shows the product moment correlations between the scales and sub scales applied in the present study.

TABLE 4.47: Product Moment Correlations of Variables Included in the Present Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 AL1_Tot	1.00																	
2 AL2_Tot	0.59	1.00																
3 PCap1_Tot	0.36	0.34	1.00															
4 PCap2_Tot	0.23	0.18	0.49	1.00														
5 PCap3_Tot	0.46	0.36	0.49	0.44	1.00													
6 PCap4_Tot	0.15	0.12	0.16	0.05	0.18	1.00												
7 PClim1_Tot	0.76	0.56	0.41	0.28	0.44	0.20	1.00											
8 PClim2_Tot	-0.19	-0.04	-0.23	-0.08	-0.09	-0.26	-0.18	1.00										
9 PClim3_Tot	0.29	0.24	0.19	0.10	0.16	0.15	0.31	0.02	1.00									
10 PClim4_Tot	0.49	0.30	0.32	0.12	0.25	0.10	0.55	-0.33	0.30	1.00								
11 TC1_Tot	0.42	0.38	0.42	0.20	0.25	0.20	0.57	-0.24	0.16	0.38	1.00							
12 TC2_Tot	0.19	0.16	0.04	0.05	-0.06	-0.34	0.18	0.18	0.03	0.07	0.26	1.00						
13 TC3_Tot	0.31	0.24	0.39	0.17	0.30	0.20	0.42	-0.24	0.32	0.41	0.57	0.13	1.00					
14 AL_Tot	0.98	0.76	0.38	0.24	0.47	0.15	0.78	-0.17	0.30	0.48	0.44	0.20	0.31	1.00				
15 PCap_Tot	0.44	0.37	0.79	0.75	0.79	0.43	0.48	-0.22	0.21	0.29	0.38	-0.08	0.38	0.46	1.00			
16 PClim_Tot	0.74	0.56	0.39	0.25	0.42	0.16	0.96	0.00	0.49	0.63	0.53	0.20	0.43	0.76	0.45	1.00		
17 TC_Tot	0.39	0.33	0.33	0.17	0.17	-0.06	0.48	-0.07	0.21	0.34	0.74	0.75	0.69	0.41	0.24	0.48	1.00	
18 ITQ_Tot	-0.34	-0.25	-0.37	-0.13	-0.22	-0.28	-0.38	0.26	-0.19	-0.37	-0.43	-0.04	-0.37	-0.34	-0.35	-0.37	-0.32	1.00

Significant correlations were evident across most of the scales and sub scales utilised in the present study. The correlations ranged between 0.15 and 0.98 indicating correlations that have almost negligible relationships (0.15) to correlations with very dependable relationships (Guilford, 1956). The research questions below highlight how the correlations and multiple regressions were used in answering research questions. Interpretation of the r value is based on Guilford (1956) scheme as presented in Table 4.46.

4.5 Research Question 2

Research Question	Analysis Utilised
Research Question 2: • Will authentic leadership be positively related to psychological capital?	• Pearson Correlation • Standard Multiple Regression

Based on the authentic leadership two factor structures and the psychological capital four factor structures, correlation and multiple regression procedures were carried out. According to Guilford (1956), the product moment correlation between authentic leadership and psychological capital (r=0.46) indicates a substantial relationship. Correlations between the sub scales of the aforementioned variables range between 0.15 and 0.49 signifying slight to moderate correlations.

The results of multiple regression analyses carried out are presented in Table 4.48.

TABLE 4.48: Regression: Dependant Variable Psychological Capital

Regression: Dependent Variable -Psychological Capital Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	75.922		24.374	0.000
Self-confidence	0.517	0.342	3.966	0.000
Integrity	0.738	0.166	2.154	0.032
F=26.986; p=0.000	**R=0.4601; R Square = 0.2117; Adjusted R Square = 0.2038**			
Regression: Dependent Variable –Hope (PsyCap) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	18.294		15.702	0.000
Self-confidence	0.132	0.240	2.653	0.009
Integrity	0.321	0.198	2.315	0.022

F=18.175; p=0.000 R= 0.3913; R Square= 0.1532; Adjusted R Square= 0.1447				
Regression: Dependent Variable Resilience–(PsyCap) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	25.062		23.588	0.000
Self-confidence	0.105	0.185	2.222	0.027
Integrity	0.124	0.074	0.874	0.383
F= 5.962; p= 0.003 R= 0.2366; R Square= 0.0560; Adjusted R Square = 0.0466				
Regression: Dependent Variable Efficacy –(PsyCap) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	22.170		17.388	0.000
Self-confidence	0.232	0.383	3.945	0.000
Integrity	0.229	0.128	1.451	0.148
F=28.637; p= 0.000 R=0.4709; R Square= 0.2218; Adjusted R Square= 0.2140				
Regression: Dependent Variable Optimism–(PsyCap) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	10.396		13.059	0.000
Self-confidence	0.048	0.117	1.163	0.246
Integrity	0.064	0.052	0.543	0.588
F=19.941; p= 0.089 R=0.1544; R Square= 0.0238; Adjusted R Square = 0.0141				

The coefficient of determination (r^2) highlights that 20.4% of the variation of psychological capital is explained by self-confidence and integrity (the authentic leadership subscales). Both self-confidence and integrity make significant contributions to the prediction of psychological capital (b=.342 and .166, p<.05).

The variance on the subscales of psychological capital is explained by self-confidence and integrity as follows: hope (14.5%), resilience (4.7%) efficacy (21.4%); and optimism (1.4%). The strength of the predictions varies between low and moderate. Across the sub scales of psychological capital, self-confidence had the strongest influence on hope (b=.240, p<.05), resilience (b=.185, p<.05) and efficacy (b=.383, p<.05).

Proposition 2 can be partially accepted. Though significantly positive relationships emerged between authentic leadership and psychological capital some of the correlations were negligible. Furthermore not all dimensions of authentic leadership significantly and positively related to psychological capital.

4.6 Research Question 3

Research Question	Analysis Utilised
Research Question 3: • Will authentic leadership positively relate to psychological climate?	• Pearson Correlation • Standard Multiple Regression

Based on the authentic leadership two factor structure and the psychological climate four factor structure, correlation and multiple regression analyses were applied. According to Guilford (1956), the product moment correlation between authentic leadership and psychological capital (r=0.76) indicates a marked relationship. The correlations between the sub scales of the aforementioned variables range between 0.29 and 0.76 signifying definite but small relationships to high relationships.

The results of multiple regression analyses carried out are presented in Table 4.49.

TABLE 4.49: Regression: Dependent Variable Psychological Climate

Regression: Dependant Variable- Psychological Climate Total (n=204)				
Independent Variable	**B**	**Beta**	**T**	**p**
Intercept	100.389		12.541	0.000
Self-confidence	2.935	0.630	9.469	0.000
Integrity	2.568	0.187	2.499	0.013
F= 134.569; p= 0.000 R= 0.7566; R Square= 0.5725; Adjusted R Square= 0.5682				
Regression: Dependant Variable- Support (Psychological Climate) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	43.034		6.535	0.000
Self-confidence	2.603	0.663	10.206	0.000
Integrity	1.972	0.171	2.172	0.031
F= 152.942; p= 0.000 R= 0.7768; R Square= 0.6035; Adjusted R Square= 0.5995				
Regression: Dependant Variable- Pressure (Psychological Climate) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	23.168		11.697	0.000
Self-confidence	-0.249	-0.262	-2.667	0.008
Integrity	0.328	0.117	1.195	0.234
F= 4.824; p= 0.009 R=0.2140; R Square= 0.0458; Adjusted R Square= 0.0363				

Regression: Dependant Variable- Autonomy (Psychological Climate) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	20.352		13.078	0.000
Self-confidence	0.181	0.230	2.536	0.012
Integrity	0.239	0.103	1.162	0.247
F= 10.192; p= 0.000 R= 0.3034; R Square = 0.0921; Adjusted R Square= 0.0830				
Regression: Dependant Variable- Cohesion (Psychological Climate) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	13.834		9.366	0.000
Self-confidence	0.400	0.481	5.542	0.000
Integrity	0.030	0.012	0.150	0.881
F= 31.394; p= 0.000 R= 0.4879; R Square = 0.2380; Adjusted R Square= 0.2304				

The co-efficient of determination (r^2) indicates that 56.8% of the variation of psychological climate is explained by self-confidence and integrity (authentic leadership subscales). Both self-confidence and integrity make contributions to the prediction of psychological climate (b=.630 and .187 and p<.05).

The variance on the subscales of psychological climate is explained by self-confidence and integrity as follows: support (60%), pressure (3.6%), autonomy (8.3%); and cohesion (23%). The strength of the predictions varies between low and moderate.

Across the sub scales of psychological climate, self-confidence has a marked influence on psychological climate sub scales as follows: self-confidence on support (b=.663, p<.05); self-confidence on pressure (b=-0.262, p<.05); self-confidence on autonomy (b=.230, p<.05); and self-confidence on cohesion (b=.481, p<.05). Integrity also has a significant influence on support (b=.171, p<.05).

Based on the significantly strong relationships emerging Proposition 3 can be accepted.

4.7 Research Question 4

Research Question	Analysis Utilised
Research Question 4: • Will authentic leadership positively relate to team commitment?	• Pearson Correlation • Standard Multiple Regression

Based on the authentic leadership two factor structures and the team commitment three factor structures, correlation and multiple regression analyses were carried out. According to Guilford (1956), the correlation between authentic leadership and team commitment (r=0.41) indicates a substantial relationship. Correlations between the sub scales of the aforementioned variables range between 0.16 and 0.42 signifying slight to moderate correlations.

The results of multiple regression analyses carried out are presented in Table 4.50.

TABLE 4.50: Regression of Authentic Leadership Sub scales on Team Commitment

Regression: Dependant Variable Team Commitment Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	102.909		17.372	0.000
Self-confidence	0.895	0.303	4.070	0.000
Integrity	1.270	0.146	1.521	0.130
F=19.881; p= 0.000 R=0.4064; R Square= 0.1652; Adjusted R Square= 0.1568				
Regression: Dependant Variable Normative Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	27.595		11.356	0.000
Self-confidence	0.302	0.300	3.092	0.002
Integrity	0.595	0.200	1.893	0.060
F=25.275; p= 0.000 R=0.4483; R Square= 0.2010; Adjusted R Square= 0.1930				
Regression: Dependant Variable Continuance Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	33.998		9.954	0.000
Self-confidence	0.275	0.152	1.819	0.070
Integrity	0.367	0.069	0.707	0.480
F=4.208; p= 0.016 R=0.2005; R Square= 0.0402; Adjusted R Square= 0.0306				
Regression: Dependant Variable Affective Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	41.316		15.297	0.000
Self-confidence	0.318	0.257	2.595	0.010
Integrity	0.308	0.085	0.911	0.363
F=11.063; p = 0.000 R=0.3149; R Square= 0.0992; Adjusted R Square= 0.0902				

The co-efficient of determination (r^2) indicates that 15.7% of the variance of team commitment is explained by self-confidence and integrity (authentic leadership subscales). Self-confidence has the stronger influence on team commitment (b=.303; p<.05).

The variance for the sub scales of team commitment is explained by self-confidence and integrity as follows: normative commitment (19.3%); continuance commitment (3.1%) and affective commitment (9%). The strength of the predictions varies between low and moderate.

Across the sub scales, self-confidence had a significant influence on the team commitment sub scales as follows: self-confidence on normative commitment (b=.300, p <.05); and self-confidence on affective commitment (b=.257, p<.05).

Proposition 4 can be accepted because moderate product moment correlations existed and the multiple regression analyses indicate low to moderate relationships.

4.8 Research Question 5

Research Question	Analysis Utilised
Research Question 5: • Will psychological climate positively relate to psychological capital?	• Pearson Correlation • Standard Multiple Regression

According to Guilford (1956), the correlations between the scale scores of psychological climate and psychological capital (r= 0.45) indicate a moderate or substantial relationship. Negligible to moderate correlations emerged between the sub scales of psychological climate and psychological capital (0.16 – 0.44). In addition, a low negative correlation between hope and pressure (r =-0.23) also emerged. A few of the sub scales such as resilience, efficacy and optimism did not have more than negligible relationships with some of the psychological climate sub scales such as autonomy, cohesion and pressure.

The results of multiple regression analyses carried out are presented in Table 4.51.

TABLE 4.51: Regression of Psychological Climate Sub scales on Psychological Capital

Regression: Dependant Variable Psychological Capital Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	75.268		13.182	0.000
Support	0.173	0.449	4.756	0.000
Pressure	-0.246	-0.155	-1.963	0.051
Autonomy	0.164	0.085	1.125	0.262
Cohesion	-0.067	-0.037	-0.406	0.685
F=17.337; p= 0.000 R=0.5084; R Square= 0.2584; Adjusted R Square= 0.2435				
Regression: Dependant Variable Hope (Psychological Capital) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	17.919		7.746	0.000
Support	0.045	0.318	2.828	0.005
Pressure	-0.088	-0.153	-1.955	0.052
Autonomy	0.051	0.073	0.830	0.407
Cohesion	0.047	0.071	0.771	0.442
F=12.573; p= 0.000 R=0.4492; R Square= 0.2017; Adjusted R Square= 0.1857				
Regression: Dependant Variable Resilience (Psychological Capital) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	24.472		11.886	0.000
Support	0.043	0.294	2.951	0.004
Pressure	-0.030	-0.051	-0.674	0.501
Autonomy	0.025	0.034	0.441	0.660
Cohesion	-0.048	-0.070	-0.739	0.461
F=4.338; p= 0.002 R= 0.2832; R Square= 0.0802; Adjusted R Square= 0.0617				
Regression: Dependant Variable Efficacy (Psychological Capital) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	21.087		8.470	0.000
Support	0.066	0.428	4.296	0.000
Pressure	-0.007	-0.010	-0.138	0.890
Autonomy	0.017	0.022	0.321	0.749
Cohesion	0.002	0.003	0.032	0.975
F=10.448; p= 0.000 R= 0.4913; R Square= 0.2414; Adjusted R Square= 0.2183				

Regression: Dependant Variable Optimism (Psychological Capital) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	11.790		8.342	0.000
Support	0.020	0.189	2.137	0.034
Pressure	-0.121	-0.278	-4.010	0.000
Autonomy	0.071	0.136	1.931	0.055
Cohesion	-0.068	-0.137	-1.648	0.101
F=6.689; p= 0.000	**R= 0.3443; R Square= 0.1185; Adjusted R Square= 0.1008**			

The co-efficient of determination (r^2) indicates that 24.4% of the variation of psychological capital is explained by the psychological climate sub scales of support, pressure, autonomy and cohesion. Support has the most influence on psychological capital (b=.449, p<.05).

The variance in the subscales of psychological capital is explained by support, pressure, autonomy and cohesion as follows: hope (18.6%); resilience (6.2%); efficacy (17.6%) and optimism (10 %). The strength of the predictions varies between low and moderate.

Across the sub scales of psychological capital, support and pressure had a strong influence as follows: support on hope (b=.318, p<.05); support on resilience (b=.294, p <.05); support on efficacy (b=.428, p<.05); support on optimism (b=.189, p<.05) and pressure on optimism (b=-0.278, p<.05).

Proposition 5 can be accepted because the correlations between psychological capital and psychological climate indicate significantly positive relationships, as well as negatively significant relationships.

4.9 Research Question 6

Research Question	Analysis Utilised
Research Question 6: • Is there a positive relationship between psychological capital and team commitment?	• Pearson Correlation • Standard Multiple Regression

Based on the psychological capital four factor structures and the team commitment three factor structures, correlation and multiple regression analyses were carried out.

According to Guilford (1956), the correlation between the scales and sub scales of psychological capital and team commitment (r=0.24) indicate a definite but small relationship. Correlations between the sub scales of the aforementioned variables range between 0.17 and 0.42 signifying slight to moderate correlations.

The results of the multiple regression analyses are shown in Table 4.52.

TABLE 4.52: Regression: Psychological Capital on Team Commitment Subscales

Regression: Dependant Variable Team Commitment (Total) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	96.156		7.004	0.000
Hope	1.789	0.333	2.884	0.004
Resilience	-0.020	-0.004	-0.051	0.960
Efficacy	0.161	0.033	0.286	0.775
Optimism	-0.832	-0.116	-1.480	0.140
F=6.844; p= 0.000 R= 0.3478; R Square= 0.1209; Adjusted R Square = 0.1033				
Regression: Dependant Variable Normative Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	17.199		3.089	0.002
Hope	0.712	0.389	3.115	0.002
Resilience	-0.029	-0.016	-0.177	0.860
Efficacy	0.068	0.040	0.296	0.768
Optimism	0.311	0.127	1.674	0.096
F=12.077; p=0.000 R=0.4420; R Square= 0.1953; Adjusted R Square = 0.1792				
Regression: Dependant Variable Continuance Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	54.754		7.237	0.000
Hope	0.350	0.106	1.080	0.282
Resilience	0.141	0.044	0.612	0.541
Efficacy	-0.204	-0.068	-0.714	0.476
Optimism	-1.514	-0.345	-4.584	0.000
F=7.221; p= 0.000 R=0.3560; R Square= 0.1267; Adjusted R Square= 0.1092				
Regression: Dependant Variable Affective Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	24.203		3.452	0.001
Hope	0.728	0.324	3.083	0.002

Resilience	-0.133	-0.061	-0.740	0.460
Efficacy	0.297	0.145	1.662	0.098
Optimism	0.370	0.124	1.771	0.078
F=11.111; p= 0.000 R=0.4273; R Square= 0.1826; Adjusted R Square = 0.1661				

The co-efficient of determination (r^2) indicates that 10.3% of the variance in team commitment is explained by hope, resilience, efficacy, and optimism (psychological capital subscales). Hope has the most influence on team commitment (b=.333, p<.05).

The variance of the sub scales of team commitment is explained by hope, resilience, efficacy and optimism as follows: normative commitment (17.9%); continuance commitment (10.9%) and affective commitment (16.6 %).

Across the sub scales of team commitment, hope has the strongest influence on the prediction of normative commitment (b=0.389; p<.05) and affective commitment (b=0.324 and p<.05). Optimism also has the strongest influence on continuance commitment (b= -0.345; p<.05).

Though Proposition 6 can be accepted, the correlations and multiple correlations between psychological climate and team commitment indicate small to moderate significantly positive relationships.

4.10 Research Question 7

Research Question	Analysis Utilised
Research Question 7: • Will psychological climate positively relate to the level of team commitment?	• Pearson Correlation • Standard Multiple Regression

Based on the psychological climate four factor structures and the team commitment three factor structures, correlation and multiple regression analyses were carried out. According to the guidelines by Guilford (1956), the correlation between the scales of psychological climate and team commitment (0.48) indicate a moderate relationship.

Across the sub scales of psychological climate and team commitment low to moderate correlations emerged ranging from 0.18 to 0.57. A low negative correlation

emerged between pressure and the team commitment dimensions of continuance and affective commitment (r=-0.24). There were no significant relationships between autonomy and continuance commitment.

The results of the multiple regression analyses are presented in Table 4.53.

TABLE 4.53: Regression of Psychological Climate Subscales on Team Commitment

Regression: Dependent Variable Team Commitment Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	80.571		9.051	0.000
Support	0.308	0.408	4.446	0.000
Pressure	0.127	0.041	0.571	0.568
Autonomy	0.164	0.043	0.541	0.589
Cohesion	0.415	0.117	1.186	0.237
F=15.835; p= 0.000	**R=0.4914; R Square = 0.2414; Adjusted R- Square= 0.2262**			
Regression: Dependant Variable Normative Commitment (Total) (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	25.303		6.859	0.000
Support	0.135	0.524	4.528	0.000
Pressure	-0.142	-0.134	-2.113	0.036
Autonomy	-0.017	-0.013	-0.143	0.886
Cohesion	0.057	0.047	0.546	0.585
F=26.451; p= 0.000	**R=0.5892; R Square= 0.3471; Adjusted R Square= 0.3340**			
Regression: Dependant Variable Continuance Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	23.396		3.943	0.000
Support	0.096	0.208	2.388	0.018
Pressure	0.458	0.240	3.233	0.001
Autonomy	-0.132	-0.057	-0.697	0.487
Cohesion	0.115	0.053	0.534	0.594
F=4.519; p= 0.002	**R= 0.2886; R Square= 0.0833; Adjusted R Square = 0.0648**			
Regression: Dependant Variable Affective Commitment (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	31.872		7.462	0.000
Support	0.077	0.244	2.688	0.008
Pressure	-0.189	-0.145	-1.854	0.065

Autonomy	0.313	0.198	2.457	0.015
Cohesion	0.243	0.164	1.687	0.093
F=18.225; p= 0.000 R= 0.5178; R Square = 0.2681; Adjusted R Square = 0.2534				

The co-efficient of determination (r^2) shows that 22.6% of the variance in team commitment is explained by the psychological climate subscales of support, pressure, autonomy and cohesion. Support has the strongest influence on team commitment (b=0.408, p=<.05).

The variance in the sub scales of team commitment is explained by support, pressure, autonomy and cohesion as follows: normative commitment (33.4%); continuance commitment (6.5%) and affective commitment (25.3 %).

Across the sub scales of team commitment, various psychological climate subscales had the strongest influence as follows: support (b=.524, p<.05) on normative commitment and pressure (b= -0.134; p<.05) also had the most influence on normative commitment. Support (b=.208; p<.05) and pressure (b=.240; p<.05) had a strong influence on continuance commitment. Lastly, support (b=.244; p<.05) and autonomy (b=.198; p<.05) had the most influence on affective commitment.

Proposition 7 can be accepted because significantly positive relationships emerged between psychological climate and team commitment scales and sub scales.

4.11 Research Question 8

Research Question	Analysis Utilised
Research Question 8: • Will authentic leadership, psychological capital, psychological climate and team commitment negatively relate to employees' intention to quit the organisation?	• Pearson Correlation • Standard Multiple Regression

Based on the new factor structures for the measures utilised in the present study, correlation and multiple regression analyses were carried out. According to Guilford (1956), the correlations between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit ranged between -0.32 and -0.37 indicating definite but small correlations.

The results of multiple regression analyses executed are presented in Table 4.54.

TABLE 4.54: Regression of Authentic Leadership, PsyCap, Psychological Climate and Team Commitment on Intention to Quit

Regression: Dependent Variable Intention to Quit Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	21.028		8.137	0.000
Authentic Leadership	-0.030	-0.075	-0.589	0.556
Psychological Capital	-0.069	-0.213	-2.548	0.012
Psychological Climate	-0.013	-0.125	-0.907	0.366
Team Commitment	-0.030	-0.182	-2.359	0.019
F=12.764; p = 0.000	**R= 0.4519; R Square= 0.2042; Adjusted R Square = 0.1882**			

The co-efficient of determination (r^2) indicates that 18.8% of the variation of intention to quit is explained by the scores on the scales of authentic leadership, psychological capital, psychological climate and team commitment. Psychological capital (b= -0.213, p<.05) and team commitment (b= -0.182, p<.05) have a significant influence on intention to quit.

The results of multiple regression analyses carried out in Table 4.55; show that 17.8% of the variance in intention to quit is explained by psychological capital.

TABLE 4.55: Regression of Psychological Capital on Intention to Quit

Regression: Dependant Variable Intention to Quit Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	16.866		8.515	0.000
Hope	-0.323	-0.360	-4.138	0.000
Resilience	0.067	0.077	0.989	0.324
Efficacy	-0.027	-0.033	-0.414	0.680
Optimism	-0.265	-0.221	-3.610	0.000
F=12.013; p= 0.000	**R=0.4410; R Square = 0.1945; Adjusted R Square= 0.1783**			

Table 4.55 indicates that the psychological capital sub scales of hope (b= -0.360, p<.05) and optimism (b= -0.221, p<.05) have the strongest influence on intention to quit.

In addition the results of the multiple regression analyses carried out in Table 4.56 indicates, 20.2% of the variance in intention to quit is explained by team commitment.

TABLE 4.56: Regression of Authentic Leadership, PsyCap, Psychological Climate and Team Commitment on Intention to Quit

Regression: Dependant Variable Intention to Quit Total (n=204)				
Independent Variable	**B**	**Beta**	**t**	**p**
Intercept	16.594		9.597	0.000
Normative Commitment	-0.166	-0.339	-3.494	0.001
Continuance Commitment	0.021	0.076	1.202	0.231
Affective Commitment	-0.076	-0.191	-2.094	0.038
F=18.102; p= 0.000 R=0.4621; R Square = 0.2135; Adjusted R Square= 0.2018				

Furthermore, Table 4.56 shows both normative commitment (b= -0.339, p<.05) and affective commitment (b= -0.191, p<.05) have the strongest influence on intention to quit.

Proposition 8 can be accepted because significantly negative relationships between intention to quit and all the measures applied in the study emerged.

4.12 Structural Equations Modelling

To test the relationship between the variables in the present study, a theoretical model was proposed. The fit of the proposed model to the present data is shown in the following sections. Alternate measurement models were also put forward and tested on the present data. The research question utilised to interpret the structural equations models are highlighted below.

Research Question	Analysis Utilised
Research Question 9: • Can a model of sequential relationships among the measures of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit be successfully built?	• Structural Equations Modelling

4.12.1 Indices used in present study (Statistica v10)

To determine model fit, SEM was conducted on the various models of sequential relationships among the measures utilised in the present study. Indices such as the Steiger-Lind RMSEA (<.05 indicates a good fit), McDonald Noncentrality Index (values > .95 indicate a good fit), Joreskog GFI and AGFI (values > .95 indicate a good fit).

According to Hair et al. (2010), goodness of fit (GOF) indicates how well the specified model reproduces the observed covariance matrix among the items. Engel, Moosbrugger and Müller (2003), state that no well established guidelines exist for what minimal conditions constitute an adequate fit. Further, Engel et al. (2003) suggest a general approach to model fit as follows: establish that the model is identified, that the iterative estimation procedure converges, that all parameter estimates are within the range of permissible values, and that the standard errors of the parameter estimates are at reasonable levels.

According to Hair et al. (2010), chi- square ($x2$) is sensitive to sample size and as the sample size increases so does the value of chi-square. Engel et al. (2003) explain that the increased sample size leads to the problem that plausible models might be rejected based on significant ($x2$) statistic even though the discrepancy between the sample and the model- implied covariance matrix is actually irrelevant. In addition, Hair et al. (2010) caution against the use of the ($x2$) as a GOF measure because just adding indicators to the model will cause the ($x2$) values to increase and make it more difficult to achieve model fit. Hooper, Coughlan and Mullen (2008) argue that although fit indices are a useful guide, a structural model should also be examined with respect to substantive theory.

4.12.2 Item parcelling in Structural Equation Models for Optimum Solutions

According to Little, Cunningham, Shahar and Widaman (2002), parcelling is a measurement practice that is used with latent- variable techniques such as EFA and SEM. Little et al. (2002) describe a parcel as an aggregate level indicator comprised of the sum (or average) of two or more items, responses or behaviours. According to

MVStats, (n.d), parcelling has the potential to improve model fit simply because it reduces the complexity of the model and models with fewer variables have the potential for better fit.

Bandalos and Finney (2001) state that the three main reasons for using item parcelling are firstly to increase the stability of parameter estimates (29%). Secondly, to improve the variable to sample size ratio (22.6%) and thirdly to remedy small sample sizes (21%). MVStats (n.d) explain that combining items into parcels involves theoretical and empirical approaches.

The best parcels are formed by items that display approximately the same covariance, which should lead them to have approximately the same factor loading estimates. In the present study, item parcelling was utilised to reduce error variance. In line with Little et al. (2002), views on item to construct balance, parcelling was employed in the presented study through pairing items with highest factor loading with items with the lowest factor loading.

4.12.3 The Proposed Theoretical Model

Figure 4.9 show the theoretical model and the parameter estimates that emerged from testing the present data on this model. The indices as highlighted in Table 4.57 and the parameter estimates in Figure 4.9 indicate a poor fit with the data in the present study.

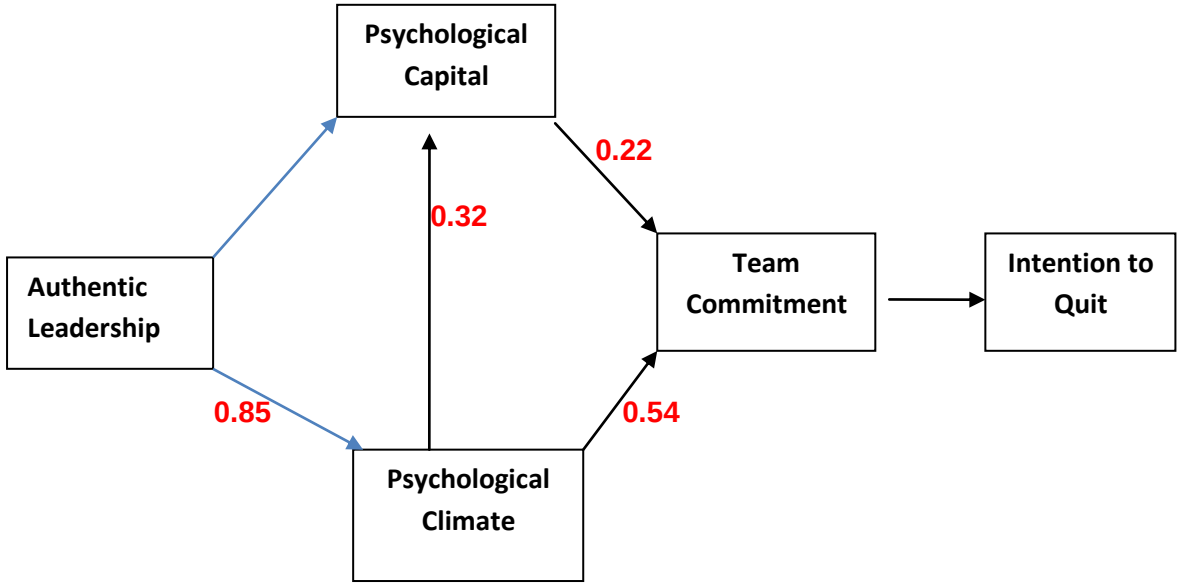

Figure 4.9: Results of Structural Equations Modelling on Proposed Theoretical Model

Significant parameter estimates that emerged have been highlighted in Figure 4.9. Some of the proposed relationships such as authentic leadership and psychological capital did not yield a significant parameter estimate.

The indices that emerged for the proposed theoretical model are presented in Table 4.57.

TABLE 4.57: Results on Structural Equations Modelling on Theoretical Model

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	13.32325	14.28196	15.27832
Steiger-Lind RMSEA Index	0.094944	0.098301	0.101672
McDonald Noncentrality Index	0.000481	0.000792	0.001279
Population Gamma Index	0.646975	0.662221	0.677585
Adjusted Population Gamma Index	0.618791	0.635253	0.651844
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.56494		
Joreskog AGFI	0.530206		
Akaike Information Criterion	19.05874		
Schwarz's Bayesian Criterion	20.98749		
Browne-Cudeck Cross Validation Index	19.51261		
Independence Model Chi-Square	7567.243		
Independence Model df	1540		
Bentler-Bonett Normed Fit Index	0.519915		
Bentler-Bonett Non-Normed Fit Index	0.626687		
Bentler Comparative Fit Index	0.64247		
James-Mulaik-Brett Parsimonious Fit Index	0.498983		
Bollen's Rho	0.499776		
Bollen's Delta	0.645342		

Based on the poor fit indices between the theoretical model and the data in the present study, alternative structural models were attempted. The three alternate models are presented below.

4.12.4 Measurement Model 1

Based on the measurement structures that emerged from data in the present study, the model in Figure 4.9 was attempted.

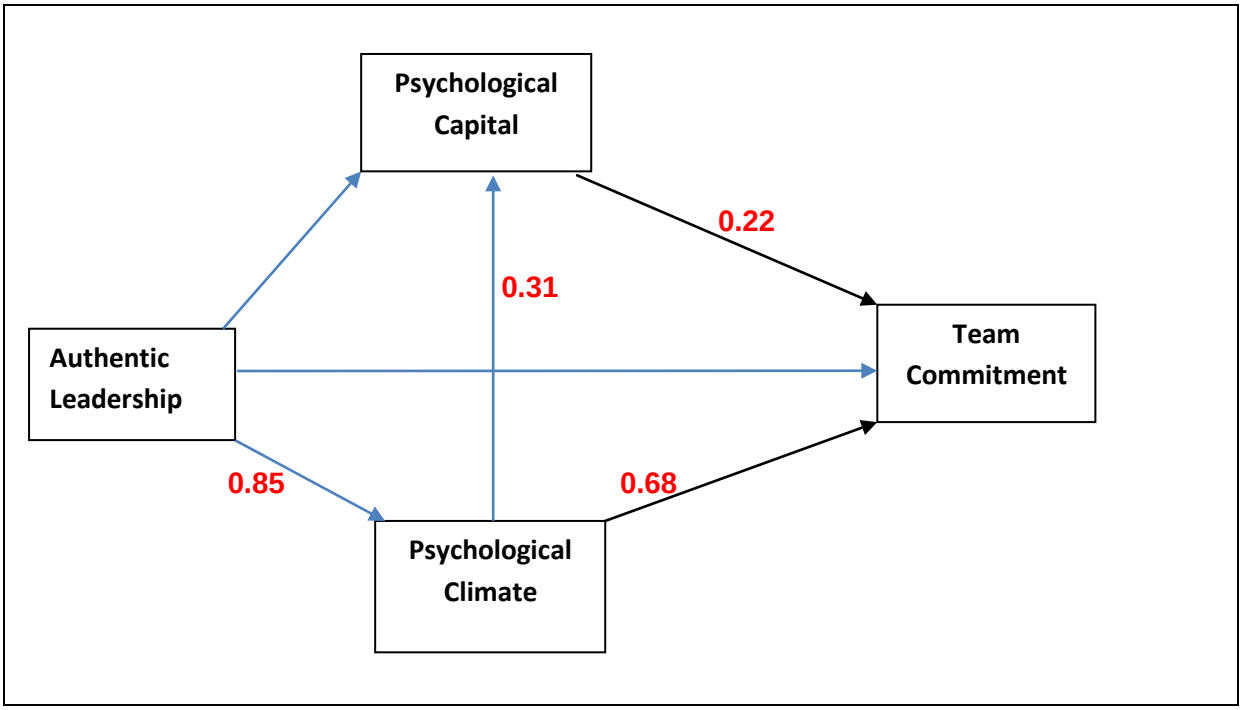

Figure 4.10: Results SEM Model- Measurement Model 1

In comparison to the theoretical model above, slightly improved indices as shown in Table 4.58 and parameter estimates in Figure 4.10 emerge.

TABLE 4.58: Results Fit Indices- Measurement Model 1

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	12.88211	13.81722	14.7899
Steiger-Lind RMSEA Index	0.098826	0.10235	0.105891
McDonald Noncentrality Index	0.000614	0.000999	0.001595
Population Gamma Index	0.641803	0.657287	0.672894
Adjusted Population Gamma Index	0.611388	0.628187	0.645119
Single Sample Fit Indices (Final data.sta)			
	Value		
Joreskog GFI	0.566061		
Joreskog AGFI	0.529214		
Akaike Information Criterion	17.75411		
Schwarz's Bayesian Criterion	19.5848		
Browne-Cudeck Cross Validation Index	18.15402		
Independence Model Chi-Square	6884.918		

Independence Model df	1378		
Bentler-Bonett Normed Fit Index	0.50906		
Bentler-Bonett Non-Normed Fit Index	0.608241		
Bentler Comparative Fit Index	0.625728		
James-Mulaik-Brett Parsimonious Fit Index	0.487264		
Bollen's Rho	0.487099		
Bollen's Delta	0.628965		

Though the model fit slightly improved, the indices were not sufficient to indicate an adequate fit. Alternative measurement models were attempted below.

4.12.5 Measurement Model 2

Further attempts to improve the model fit were applied utilising item parcelling and the alternative model is presented in Figure 11.

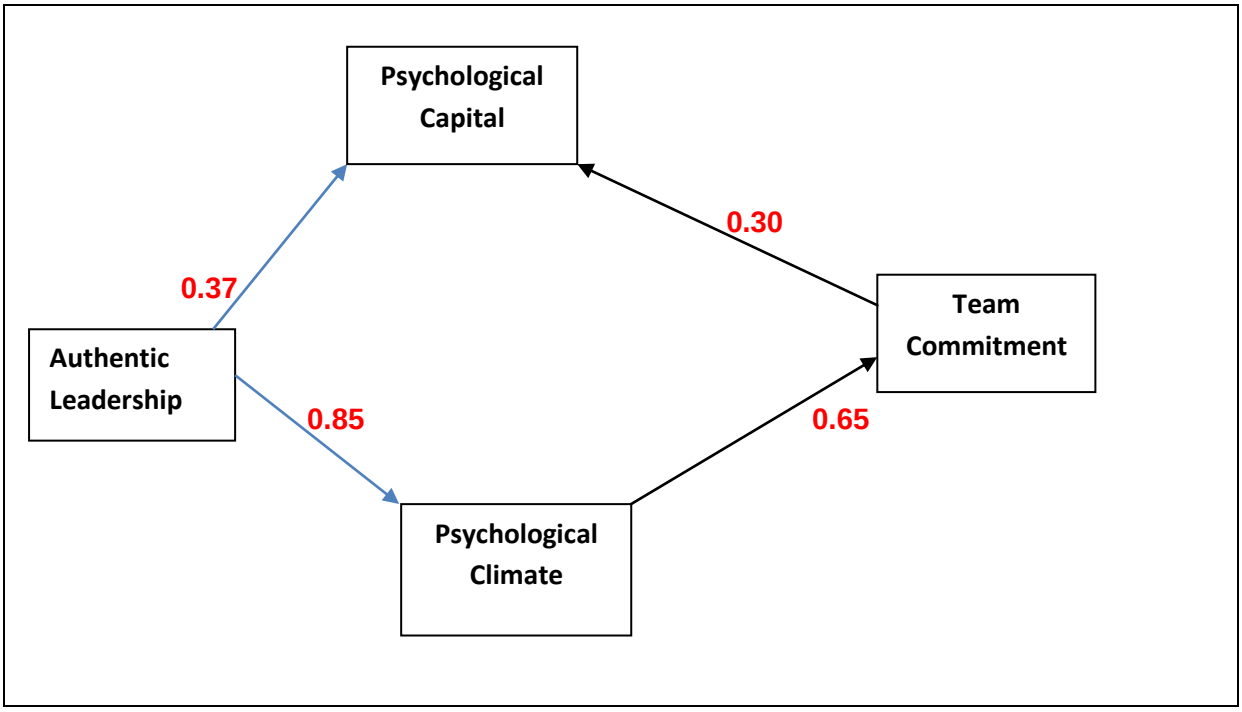

Figure 4.11 Results SEM Model Measurement Model 2

Similar parameter estimates emerged in the alternate model as highlighted in the previous models. The fit indices are summarised in Table 4.59.

TABLE 4.59: Results Fit Indices- Measurement Model 2

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	12.88993	13.82541	14.79846
Steiger-Lind RMSEA Index	0.098781	0.102303	0.105842
McDonald Noncentrality Index	0.000612	0.000995	0.001589
Population Gamma Index	0.64167	0.657154	0.672761
Adjusted Population Gamma Index	0.611832	0.628605	0.645512
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.565843		
Joreskog AGFI	0.52969		
Akaike Information Criterion	17.73994		
Schwarz's Bayesian Criterion	19.53794		
Browne-Cudeck Cross Validation Index	18.13271		
Independence Model Chi-Square	6884.918		
Independence Model df	1378		
Bentler-Bonett Normed Fit Index	0.508896		
Bentler-Bonett Non-Normed Fit Index	0.608998		
Bentler Comparative Fit Index	0.625887		
James-Mulaik-Brett Parsimonious Fit Index	0.487846		
Bollen's Rho	0.487706		
Bollen's Delta	0.628988		

From the indices in Table 4.59, attempts to fit the data in the alternate measurement model were unsuccessful. Alternate models were attempted.

4.12.6 Measurement Model 3

Figure 4.12 is an alternate model that was proposed to improve the model fit of Figure 4.11.

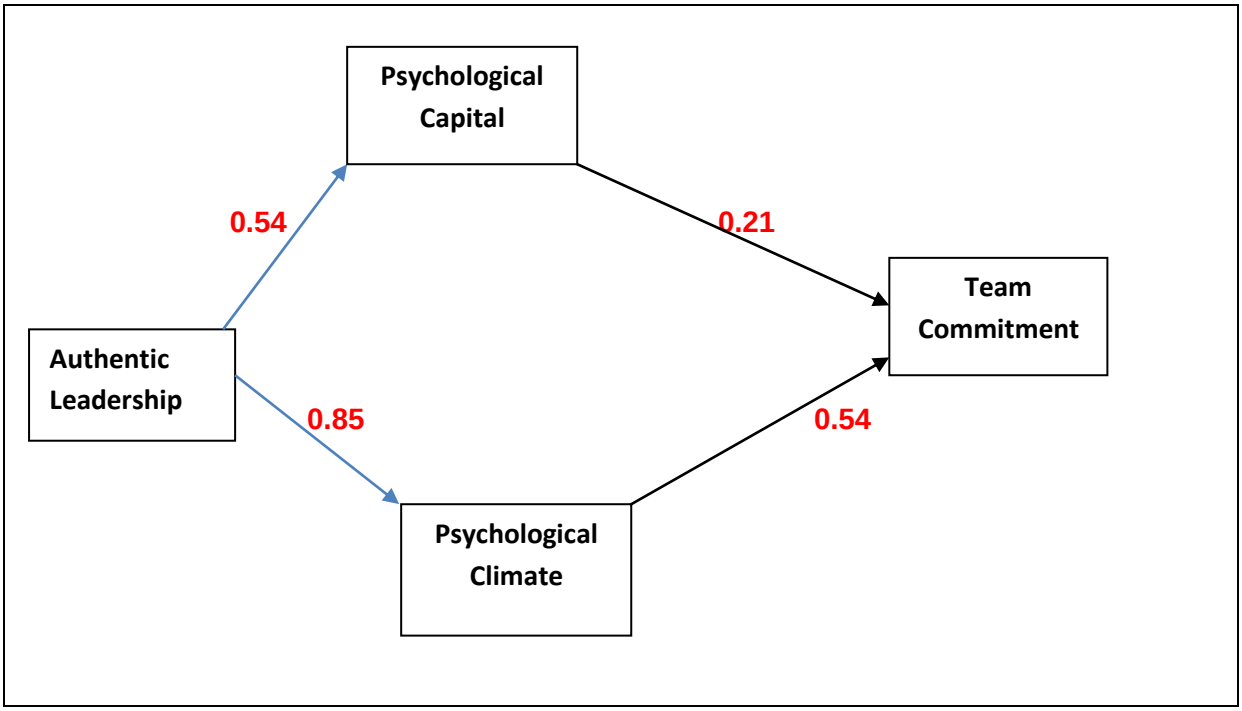

Figure 4.12 Results SEM- Measurement Model 3

Similar parameter estimates emerged in the alternate model. The fit indices are presented in Table 4.60.

TABLE 4.60: Measurement Model 3 Fit Indices

	Lower 90%	Point	Upper 90%
Noncentrality Fit Indices	**Conf. Bound**	**Estimate**	**Conf. Bound**
Population Noncentrality Parameter	12.93064	13.86729	14.84151
Steiger-Lind RMSEA Index	0.098937	0.102458	0.105996
McDonald Noncentrality Index	0.000599	0.000974	0.001556
Population Gamma Index	0.641002	0.656472	0.672066
Adjusted Population Gamma Index	0.611108	0.627866	0.644759
Single Sample Fit Indices			
	Value		
Joreskog GFI	0.565337		
Joreskog AGFI	0.529143		
Akaike Information Criterion	17.76341		

Schwarz's Bayesian Criterion	19.56141		
Browne-Cudeck Cross Validation Index	18.15618		
Independence Model Chi-Square	6884.918		
Independence Model df	1378		
Bentler-Bonett Normed Fit Index	0.508204		
Bentler-Bonett Non-Normed Fit Index	0.608096		
Bentler Comparative Fit Index	0.625022		
James-Mulaik-Brett Parsimonious Fit Index	0.487183		
Bollen's Rho	0.486984		
Bollen's Delta	0.628133		

4.12.7 Comparison of Structural Equation Models

Though slight differences emerge across the four models, the fit indices levels are insufficient to indicate an adequate model fit. According to Hooper et al. (2008), model fit could be improved by eliminating any items with low multiple r square (less than .20) as this indicates high levels of error. In the present study, the total score for the measurement scales were utilised due to the differing factor structures. The different psychometric structures of measures in the present study could possibly have impacted on the model fit.

Furthermore, Hooper et al. (2008) caution against attempts to fit the model on the data by moving away from the original, theory testing purpose of structural equation modelling. The present study is exploratory in nature and aimed at testing the relationship between the variables under study on a South African sample. Inferring from the multiple indices highlighted previously, none of the proposed models provided an adequate fit. Possible reasons for a poor fit could be attributed to the use of measuring instruments in a different cultural context where respondents may differ in terms of educational levels and their general interpretation of the measures.

Based on the indices emerging from the structural models built above, Proposition 9 can be rejected. This is because none of the models successfully produced an adequate fit on the present data.

4.13 Summary of Chapter 4

This chapter sought to answer the research questions developed in Chapter 2. Several research questions were answered and strong relationships between variables emerged. Further discussion of the theoretical and practical applicability of the findings will be discussed in the next chapter.

Chapter 5: Discussions, Contributions, Limitations and Future Research

5.1 Introduction

As set out in chapter 1, the aim of the present study was to determine the relationships between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit. Guided by the material in the previous chapters, an overview of the results, the contributions of the study, the limitations and recommendations for future research are stated.

5.2 Overview of the Results

The present study was exploratory in nature. Relationships between variables under study were investigated using a sample from a tyre manufacturing organisation in South Africa. According to Kerlinger and Lee (2000, p218), no single scientific investigation ever proves anything. All one can do is to bring evidence to bear that a particular proposition is true (Kerlinger & Lee, 2000). Based on the research questions and propositions put forward in Chapter 2, the major findings from the present study are discussed in the section below.

5.2.1 Proposition 1a

Proposition 1a aimed to determine the extent to which the structure of the measures used in the present study were invariant to the content of the constructs as identified by the developers of the measures. Furthermore, proposition 1a aimed to determine the extent to which the factor structures that emerged in South Africa would be interpretable and understandable when compared to the original factor structures.

CFAs were conducted on the original structures to determine the fit. With the exception of the intention to quit measure by Cohen (1993), the other measures applied in the present study did not fit the original factor structures satisfactorily. EFAs were carried out to improve and strengthen the factor structures.

Table 5.1 summarises the change in the psychometric factor structure of the measures as utilised in the present study.

Table 5.1: Summary of Change in Psychometric Factor Structures in Present Study

Measure	Original Factors	Items Lost	New Factors	Original Cronbach Alpha (all items)	New Cronbach Alpha (all Items	CFA Indices Original	CFA Indices New
Authentic Leadership	**4 factors** (16 items)	4	**2** (12 items)	0.93	0.89	Poor fit	Good fit
PsyCap	**4 factors** (24 items)	4	**4** (20 items)	0.87	0.84	Indices contradictory	Good fit
Psychological Climate	**8 factors** (40 items)	2	**6** (38 items)	0.94	0.93	Doubtful fit	Good fit
Team Commitment	**3 factors** (35 items)	8	**3** (27 items)	0.90	0.87	Poor fit	Improved Fit
Intention to Quit	Three items	NA	NA	0.90	Utilised as originally developed by Cohen, 1993.		

Table 5.1 shows the change in the psychometric structures of the measures excluding the intention to quit measure by Cohen (1993) which retained its original three items. There were too few items in the intention to quit measure to carry out factor analysis. The change in the factor structure of the other measures applied in the study could possibly be attributed to several reasons as follows:

Firstly, the education levels between the South African samples, the validation samples and other samples where the measures were applied differed. The different education levels could possibly have impacted on the interpretation of the items in the measures. The respondents in the present study had on average a Grade 12/ Matric qualification in comparison to other samples reporting higher educational levels such as a portion with postgraduate degrees.

Secondly, the population and home language groups in the South African samples differed from the samples utilised by the developers of the measures applied in the present study. Cultural differences, socialisation of respondents and modes of communication in the home language groups could possibly have resulted in the differing perceptions of the items in the measures.

Linked to the home language groups is the difference between the samples in the present study and the US based samples possibly due to the interpretation of items based on language. The administration of the measures in the present study was done in English when some respondents had other languages such as Afrikaans and Xhosa as home language. Finally, the different industries from which the samples were drawn from could possibly have influenced the interpretation of items in the

measures. The sample from the present study was from a tyre manufacturing organisation while other industries included universities, financial institutions, professional boards and high tech manufacturing industries as highlighted in earlier chapters.

The authentic leadership measure by Walumbwa et al. (2008) did not retain its original four factor structure. The respondents in the present study perceived authentic leadership as two factors which were renamed self-confidence of the leader and integrity of the leader. Other studies that cross validated the ALQ as developed by Walumbwa et al. (2008) retained the four factor structure (Clapp-Smith et al., 2009; Walumbwa et al., 2010).

In the present study, the White respondents had a higher mean score on the authentic leadership dimension when compared to other population groups. The higher mean scores suggest the perception of the level of authentic leadership of their superiors by White respondents was more positive when compared to the Black respondents. The different perceptions of authentic leadership by respondents could possibly influence the pattern of responses and interpretation of items. These findings provide evidence of the ALQ measurement being variant on a South African sample.

In the revalidation of the PsyCap measure, though the four factor structure was retained, several items were lost during EFA. Of note is the fourth PsyCap factor (optimism) where negatively worded items clustered together. This could possibly suggest different interpretation by the South African sample of negatively worded items when comparing with the validation samples utilised by Luthans et al. (2007a). Interpretation of the negatively worded items could be attributed to the level of education of the respondents or the research culture in SA where respondents are not familiar with responding to negatively worded items.

Furthermore the loading pattern of the PsyCap factors differed slightly from the original structures as developed by Luthans et al. (2007a). The sample utilised in the present study differed from the validation samples used in other studies (Luthans et al., 2007a; Luthans et al., 2009). In addition, the PCQ-24 has previously been utilised in South Africa by DuPlessis and Barkhuizen (2012) and a different factor structure emerged from the original structure developed by Luthans et al. (2007).

The factor structure of the PCQ-24 as extracted by DuPlessis and Barkhuizen (2012) differs from the factor structure in the present study.

The utilisation of CFA and EFA procedures in the re-validation of the eight factor psychological climate measure by Koys and DeCotiis (1991) in the present study resulted in a four factor structure. Three of the original psychological climate dimensions of pressure, autonomy and cohesion by Koys and DeCotiis (1991), were retained as in the original structure. A fourth factor identified as support, was a combination of items from the psychological climate sub scales of trust, support, recognition, fairness and innovation (Koys & DeCotiis, 1991). The factor identified as support, suggests respondents in the present study did not perceive the psychological climate sub scales forming the factor as separate.

Koys and DeCotiis (1991) in interpreting differences between their original sample and validation sample state that the dimensions of pressure, innovation and fairness were less concrete when compared with other dimensions in the psychological climate measure. This could possibly explain the psychometric factor structure that was extracted when the psychological climate measure was applied on a South African sample.

In the South African studies that applied the psychological climate measure, different factorial structures were extracted from the original structure developed by Koys and De Cotiis (1991). Klem and Schlechter (2008) extracted a five factor structure consisting of the dimensions of trust, cohesion, autonomy, pressure and innovation. Though the sub scales of cohesion, autonomy and pressure were similar to the subscales extracted in the present study, the factorial structure extracted by Klem and Schlechter (2008) differed from the factorial structure in the present study. Boshoff et al. (2002) extracted a one factor structure which is different from the factorial structure of Klem and Schlechter (2008) and of the present study.

Koys and DeCotiis (1991) argue for combining of dimensions such as trust and support which would refer to the nature of the superior- subordinate relationship. Findings from the present study support this argument because the strengthened factor of ‘support’ combined the dimensions of trust, support, recognition, fairness and innovation. Furthermore, Koys and DeCotiis (1991) highlight other areas of

research such as the application of the psychological climate measure across hierarchical levels within organisations and across other organisations.

The revalidation of the team commitment measure developed by Bennett (2000) retained the same three factor structure although some items were eliminated. For the South African studies that applied the team commitment measure, different factor structures emerged. Dannhauser (2009) extracted a two factor structure and renamed the factors rational and emotional commitment. In addition, Schlechter and Strauss (2008), after eliminating several items, retained the three factor structure for team commitment. Both of these South African studies extracted factor structures that differed from that extracted in the present study.

Overall, the present study assessed the equivalence of the psychological measures through CFAs and EFAs, and the results show the measures were variant in the South African context. Though aspects of the original dimensions were retained in some of the measures, elimination of items and differing factor loadings resulted in the change in the factor structures. The findings from the study suggest the importance of checking measurement model equivalence to determine the appropriate psychometric factor structures before drawing conclusions from the data.

To a certain extent proposition 1a was accepted because the factorial structures were partly comparable to the structure identified by the developers of the research instruments.

5.2.2 Proposition 1b

Proposition 1b aimed to determine the influence of the biographical variables of reporting unit, tenure, age, gender, home language, marital status, population group and education level on the perception of the measures applied in the present study. The statistical procedures carried out to measure the scores of the different demographic groups on the measures in the study were descriptive statistics, t-tests, ANOVA, Scheffé post hoc test and Cohen's d.

A significant relationship was found between the membership of a reporting unit and pressure, a sub scale of psychological climate. The effect size as determined by Cohen's d was large suggesting respondents in the manufacturing reporting unit reported that their work environment was more pressured.

Tenure (service) was significantly related to some of the scales and sub scales of authentic leadership and psychological climate. Though significant correlations existed, the correlations were too low for value to be attached to these findings. A similar finding emerged between age and the scales and sub scales of psychological climate, team commitment and intention to quit. Though statistically significant, age and the aforementioned variables had an almost negligible relationship.

The scores of different home language groups and the scores on the scales and sub scales of authentic leadership and psychological climate were significantly different. The Scheffé test and Cohen's d showed moderate to large differences between the home language groups on the scales and sub scales of authentic leadership. There were significant differences between the English and Afrikaans speakers in terms of perceived self-confidence of the leader. Significant differences also emerged between Xhosa and English speaking respondents in their perceptions of the self-confidence of the leader. The English speakers were more positive in their perception of authentic leadership.

The Scheffé test and Cohen's d also showed moderate to large differences between home language groups on the scales and sub scales of psychological climate. There were significant differences between Afrikaans and Xhosa as well as English and Xhosa speakers in terms of their perception of autonomy and cohesion (sub scales of psychological climate). The English speakers were more positive in their perception of psychological climate.

There were significant differences between marital status groups and their scores on scales and sub scales of team commitment and psychological capital. Though statistically significant relationships emerged, the effect sizes were too small to draw meaningful conclusions.

The scores of the population groups and the scores on the scales and sub scales of authentic leadership, psychological climate, team commitment and intention to quit were statistically significant. The post hoc test results show that Black and White respondents differed significantly in terms of their scores on the sub scale of self-confidence of the leader and also of the authentic leadership scale. The values of Cohen's d indicated moderate effects.

There were significant differences between Black and White respondents in terms of their scores on the psychological climate sub scales of pressure, autonomy and cohesion. The values of Cohen's d indicated moderate effects. On the psychological climate measure, the White respondents had a more positive perception of psychological climate in the organisation.

Significant differences emerged between Black and White respondents as well as Coloured and White respondents in terms of the intention to quit. The White respondents had the lowest mean score when compared to the Black and Coloured respondents. The lower mean scores amongst White respondents indicates the low intention to quit the organisation. The values of Cohen's d indicated moderate effects.

Statistically significant differences emerged between education levels and the scale of team commitment. However the post hoc test did not yield any significant differences. It is also notable that no gender differences were detected on the scores of the scales and sub scales used in the study.

Proposition 1b can be accepted because some significant differences emerged between the scores of biographical groups and the psychometric measures used in the study.

5.2.3 Proposition 2

Proposition 2 measured the existence of a significantly positive relationship between authentic leadership behaviours and follower psychological capital. Product moment correlations and multiple regression analyses were carried out on the factor structures that were extracted in the present study for authentic leadership and psychological capital.

A substantial relationship between the scales of authentic leadership and psychological capital emerged with slight to moderate correlations found for the sub scales of the aforementioned variables. The results from the multiple regression analyses show that 20.4% of the variance of psychological capital is explained by self confidence and integrity of the leader (sub scales of authentic leadership).

Proposition 2 can be partially accepted. Though significantly positive relationships emerged between authentic leadership and psychological capital some of the correlations were negligible. Furthermore not all dimensions of authentic leadership significantly and positively related to psychological capital.

5.2.4 Proposition 3

Proposition 3 proposed the extent to which the perception of leaders' exhibiting authentic leadership behaviours positively related to followers psychological climate. Product moment correlations and multiple regression analyses were carried out on the factor structures that were extracted in the present study for authentic leadership and psychological climate.

A marked relationship emerged between the scales of authentic leadership and psychological climate with small to high correlations indicated for the sub scales. The results from the multiple regression analyses show that 56.8% of the variance of psychological climate is explained by self-confidence and integrity of the leader (sub scales of authentic leadership).

Based on the significantly strong relationships emerging Proposition 3 can be accepted.

5.2.5 Proposition 4

Proposition 4 proposed the existence of a significantly positive relationship between authentic leadership behaviours and follower team commitment. Product moment correlations and multiple regression analyses were carried out on the factor structures that were extracted in the present study for authentic leadership and team commitment.

A substantial relationship emerged between the scales of authentic leadership and team commitment with slight to moderate correlations indicated for the sub scales. The results from the multiple regression analyses show that 15.7% of the variance of team commitment is explained by self confidence and integrity of the leader (sub scales of authentic leadership).

Proposition 4 can be accepted because significant product moment correlations existed and the multiple regression analyses indicate low to moderate relationships.

5.2.6 Proposition 5

Proposition 5 proposed the existence of positive perceptions of psychological climate positively relating to psychological capital. Product moment correlations and multiple regression analyses were carried out on the factor structures that were extracted in the present study for psychological climate and psychological capital.

A moderate relationship emerged between the scales of psychological climate and psychological capital with negligible to moderate correlations indicated for the sub scales. The results from the multiple regression analyses show that 24.4% of the variance of psychological capital is explained by support, pressure, autonomy and cohesion (sub scales of psychological climate).

Proposition 5 can be accepted because the correlations between psychological capital and psychological climate indicate significantly positive relationships, as well as significantly negative relationships.

5.2.7 Proposition 6

Proposition 6 proposed the existence of a significantly positive relationship between psychological capital and the level of team commitment. Product moment correlations and multiple regression analyses were carried out on the scales and sub scales in factor structures that were extracted in the present study for psychological capital and team commitment.

A small relationship emerged between the scales of psychological capital and team commitment with slight to moderate correlations between the sub scales. The results from the multiple regression analyses show that 10.3% of the variance in team commitment is explained by hope, resilience, efficacy and optimism (sub scales of psychological capital).

Though Proposition 6 can be accepted, the correlations and multiple correlations between psychological climate and team commitment indicate only small to moderate significantly positive relationships.

5.2.8 Proposition 7

Proposition 7 suggested the existence of a significantly positive relationship between psychological climate and the level of team commitment. Product moment correlations and multiple regression analyses were carried out on the factor structures that were extracted in the present study for psychological climate and team commitment.

A moderate relationship emerged between the scale of psychological climate and team commitment with low to moderate correlations indicated for the sub scales. The results from the multiple regression analyses show that 22.6% of the variance in team commitment is explained by support, pressure, autonomy and cohesion (sub scales of psychological climate).

Proposition 7 can be accepted because significantly positive relationships emerged between psychological climate and team commitment scales and sub scales.

5.2.9 Proposition 8

Proposition 8 measured the existence of a significantly negative relationship between authentic leadership behaviours, follower psychological capital, psychological climate, team commitment and intention to quit. Product moment correlations and multiple regression analyses were carried out on the scales and sub scales factor structures that were extracted in the present study for authentic leadership, psychological capital, psychological climate, team commitment and intention to quit.

The correlations between the scales of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit indicated definite but small relationships. The results from the multiple regression analyses show that 18.8% of the variation of intention to quit is explained by the scores on the scales of authentic leadership, psychological capital, psychological climate, team commitment and intention to quit.

Proposition 8 can be accepted because significantly negative relationships between intention to quit and all the measures applied in the study emerged.

5.2.10 Proposition 9

Proposition 9 measured the probability of a model fit for the relationships between authentic leadership, psychological capital, psychological climate, team commitment and intention to quit. Structural equation modelling was carried out on the factor structures that were extracted in the present study for authentic leadership, psychological capital, psychological climate, team commitment and intention to quit.

After applying item parcelling on some of the factors in the factorial structures extracted in the present study, the theoretical model as proposed in chapter 2 was tested. A poor fit was yielded resulting in three alternate models being put forward in an attempt to improve the model fit on the present data.

Based on the indices emerging from the structural models put forward, Proposition 9 can be rejected. This is because none of the models successfully produced an adequate fit on the present data.

5.3 Contributions of the Study

5.3.1 Portability of the Measures

A major contribution of the present study was in terms of the portability of the measures applied in the present study in a South African context. With the exception of Cohen's (1993) intention to quit measure, all the other measures changed their factor structure to fit the present data. The rigorous EFA process reduced the measurement error and extracted factorial structures suitable for the present data.

All the measures were developed outside South Africa and validated on different samples. Through cross validating, the present study contributes evidence of alternate conceptualisations of the measures in a different cultural context on a sample from a tyre manufacturing industry. The basic structure of ALQ as developed by Walumbwa et al. (2008) did not hold up in the South African context. The ALQ changed to a two factor structure which differs from other samples that applied the ALQ (Caza et al., 2010, Walumbwa et al., 2008, 2010). Significant differences between the scores of home language and population groups on the scores of the scales and sub scales of authentic leadership contributed to the understanding of

authentic leadership. Other studies that applied the ALQ did not state similar findings (Caza et al., 2010, Walumbwa et al., 2008, 2010).

The factor structure of PsyCap in the present study contributes to the understanding of the interpretation of items when applied on a South African sample. DuPlessis and Barkhuizen (2012) applied the PCQ-24 on a South African sample and a different factor structure emerged. The difference could possibly be influenced by the industry the sample was drawn from, the education level, population group, and language group. In the present study, the negatively worded items clustered on one factor suggesting the sample in the present study interpreted the items in the PCQ-24 differently from other samples to which applied the PCQ-24 was applied (Avey et al., 2008; DuPlessis & Barkhuizen, 2012; Luthans et al., 2007a).

The factor structure extracted for the psychological climate measure in the present study makes a contribution in that it differs from other studies in which the measure was applied. The present study extracted a four factor structure which is in contrast to the original eight factor structure by Koys and DeCotiis (1991), or the five factor structure by Klem and Schlechter (2008), or the one factor structure by (Boshoff et al., 2002). The difference in factor structure suggests differences in interpretation of items which could possibly contribute to alternative conceptualisations of psychological climate to suit the context.

The team commitment measure, though retaining the original three factor structure in the present study, shows differences in interpretation of the items. Other studies that applied the team commitment measure in South Africa extracted different factor structures indicating that within the South African context differences between sample groups exist. Dannhauser (2009) extracted a two factor structure which differs significantly from the present study and from the original structure as developed by Bennett (2000). Though items were eliminated in the present study through EFA, the majority of the items that remained in the three factor structure were in line with the structure originally developed by Meyer and Allen (1991).

The intention to quit measure retained the three items as developed by Cohen (1993). Hoole (1997) applied the intention to quit measure on a South African sample and also retained the three items. The findings from the present study contribute evidence of the robustness of the Cohen (1993) measure on samples

outside the United States. The Cronbach alpha coefficient as an indication of the internal reliability of the intention to quit by Cohen (1993) was 0.90.

5.3.2 Contributions Related to the Variables of Authentic Leadership, Psychological Capital, Psychological Climate, Team Commitment and Intention to Quit

The significantly positive relationship between authentic leadership and PsyCap in the present study supports other studies that have applied the two measures on other samples (Caza et al., 2010; Jensen & Luthans, 2006; Walumbwa et al., 2011; Woolley et al., 2011). In addition, significantly positive relationships between PsyCap and team commitment, PsyCap and intention to quit were supported. Avey et al. (2011) found that PsyCap had a significantly positive relationship with desirable employee attitudes such as organisational commitment. According to Avey et al. (2011), significantly negative relationships also emerged between undesirable employee attitudes such as turnover intentions.

Boshoff et al. (2002) state that psychological climate did not play a role in predicting intention to quit. Similar findings emerged in the present study. The significantly positive relationship between psychological climate and team commitment in the present study supports findings in the studies by (Langkamer & Ervin, 2008; Nammi & Nezhad, 2009; Şahin et al., 2011).

A marked relationship emerged between authentic leadership and psychological climate. Though causality cannot be inferred, the significantly strong relationship could possibly provide evidence for the central role of positivity in the workplace in creating a positive work environment. According to Walumbwa et al. (2010) the rising interest in authentic leadership is in part due to the mounting evidence supporting the central role of positivity in enhancing human well-being and performance at work.

The significant difference between population and home language groups on the psychological climate and authentic leadership variables is a possible contribution because the evidence provided showed how authentic leadership and psychological climate are manifest in different cultural contexts. The White respondents in the present study were more positive in terms of their perceptions of authentic leadership and psychological climate in their employing organisation. Avolio et al.

(2004) and Luthans and Avolio (2003) suggest that organisational climate or culture may enhance or mitigate perceptions of authentic leadership behaviour.

According to Koys and DeCotiis (1991), the primary function of psychological climate is to cue and shape individual behaviour towards the modes of behaviour dictated by organisational demands. Furthermore, Bishop and Scott (2000) suggest that it may be possible to influence employees' relative levels of commitment to the organisation by manipulating relevant antecedent variables. In the present study, 33.4% of the variance of normative commitment is explained by the sub scales of psychological climate (support, pressure, autonomy and cohesion). The moderately significant relationship could possibly provide some evidence to support the role of the perceptions of psychological climate on normative commitment.

The low variance explained on intention to quit by variables in the present study suggests that a greater portion of the variance is still unexplained and the pattern of relationships in the present study could not reliably predict intention to quit. According to Firth et al. (2004) though intentions are an accurate indicator of subsequent behaviour, the determinants of such behaviour are still not known. As supported in the present study, empirical studies on intention to quit indicate that significant relationships emerge between intention to quit and variables such as organisational commitment but the magnitude of the effects was found to be relatively small (Mathieu & Zajac, 1990). The shortness of the scale measuring intention to quit could also have a limiting effect on the correlation coefficient that would be obtained.

5.4 Limitations of the Study

The study was conducted within a single organisation in South Africa and generalisations to other organisations are not possible. More studies would be required to determine the pattern of relationships that emerge in a South African context. The present study utilised a cross sectional design that is of limited value in establishing cause and effect. Furthermore the study utilised a survey questionnaire and only sought to determine relationships between variables.

Podsakoff, MacKenzie and Lee (2003) state that method variance can either inflate or deflate observed relationships between constructs, leading to both Type I or Type II errors. A composite questionnaire was utilised to collect data at one point which could have been problematic because the sequential presentation of scales possibly increased the problem of common method variance.

Lazarus (2003) explains that cross sectional research involves overstatement of the importance of sample or cohort differences and fails to give adequate attention to individual differences, and the use of questionnaires administered only once per participant limits a full and accurate description of what the individual was experiencing. Adding a qualitative component to the study could possibly have yielded a better understanding of the context and emotional experiences of respondents. Further research could possibly confirm or argue against the relationships that emerged in the present study.

5.5 Future Research

Findings from the present study possibly direct future research towards more research on the psychometric structures of the measures applied. The different factor structures extracted in the different samples suggest the need to conceptualise the measures in a manner that is applicable to the context in which the measures are being applied. Carrying out the CFAs and EFAs indicated the importance of determining the factor structure that fits the data hence pointing towards more research which may provide clarity on the factor structures.

Future research could possibly be extended to other cultures and other samples to determine portability of the measures. The present study showed the significant differences between the scores of home language and population groups on some of the scores of the scales and sub scales in the present study. Furthermore, the different structures that emerge could possibly contribute to the interpretation of the items across cultural contexts. Findings from the cross cultural research could possibly compare samples and add to findings in the extant literature.

One of the possible reasons for the different interpretations of the measures in the present study was the educational level. Future research could possibly compare the

reading ability and the comprehension of items in the measures across samples where the measures have been applied. Findings from these comparative studies could possibly provide evidence that could aid in accurate interpretation of measures when applied on different samples.

Lastly, a measure of social desirability may possibly contribute to the accurate interpretation of the data and determine the extent to which respondents could possibly have faked their responses. Research on social desirability could possibly correlate the scores on the measure with the social desirability scores possibly enabling more accurate interpretations of the relationships that emerge.

5.6 Concluding Remarks

The present study attempted to advance the understanding of positive organisational behaviour variables in the SA context through testing relationships between variables. The overall aim of the study was achieved and findings from the present study support the significant relationships between variables. The psychometric factor structures of the measures as extracted in the present data provide a platform for other researchers to conduct further research and contribute to the extant literature.

The marked relationship between authentic leadership and psychological climate suggests a promising area for further research. Understanding the antecedents of psychological climate could possibly contribute to building a positive work environment where employees can flourish and relate positively to outcomes such as performance and commitment. Finally, directions for future research could possibly contribute to the burgeoning field of positive psychology in the workplace.

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