

Assessing the relationship between leadership trust and work engagement at a university

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Abstract and keywords / Uittreksel en sleutelwoorde

This study assessed the relationship between leadership trust and work engagement with the ultimate goal of developing a model that would specify which dimension of leadership trust would best predict work engagement.

A cross-sectional survey was conducted on a convenience sample (N = 244) representing a response rate of 48.8% from a sample of 500 university employees.

The results indicated only reliance-based trust to be a significant predictor of work engagement, but it was not possible to suggest a model for prediction of work engagement from leadership trust.

Study limitations were, however, identified and recommendations for institution-specific and future research were made regarding these constructs.

Keywords: Leadership trust, work engagement

Hierdie studie het die verwantskap tussen leierskapsvertroue en werksbelewing geëvalueer. Die uiteindelige doel was om 'n model te ontwikkel wat sou spesifiseer watter dimensie van leierskapsvertroue werksbelewing die beste sal kan voorspel.

'n Deursnee-opname is gedoen op 'n gerieflikheidssteekproef (N = 244) met 'n responskoers van 48.8% op 'n steekproefgrootte van 500 universiteitswerknemers.

Die resultate dui slegs afhanklikheid-gebaseerde vertroue as 'n belangrike voorspeller van werksbelewing aan. Dit was ook nie moontlik om 'n model vir die voorspelling van werkbelewing vanuit leierskapsvertroue te ontwikkel nie.

Beperkings in hierdie studie is egter geïdentifiseer en aanbevelings vir instelling-spesifieke asook toekomstige navorsing ten opsigte van hierdie konstrakte is gemaak.

Sleutelwoorde: Leierskapsvertroue, werksbelewing

Preface and acknowledgements

The editorial style as well as the references referred to in this dissertation follow the format prescribed by the NWU Referencing Guide (2012). This practice is in line with the policy of the Programme in the Potchefstroom Business.

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List of abbreviations and statistical symbols

BTI:	Behavioural Trust Inventory
CLT:	Central Limit Theorem
KMO:	Kaiser-Meyer-Olkin measure of sampling adequacy
n:	Sample size
S:	Standard deviation
SEM:	Structural equation modelling
UWES:	Utrecht Work Engagement Scale
\bar{x} :	Sample mean
α :	Cronbach’s alpha

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CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

1.1 Introduction

This study aims to assess the relationship between the dimensions of leadership trust and work engagement at a University. The ultimate aim is to develop a model that would specify which dimension of leadership trust would best predict work engagement.

Chapter 1 delivers the contextual background to the study leading to the problem statement. It furthermore clarifies the research objectives and research methodology in trying to reach the intended goal. This chapter concludes by providing a division of the ensuing chapters.

1.2 Background to the study

The target group consists of institutions of higher education in South Africa where the core business of the 23 institutions of higher education is teaching and learning. These institutions focus on teaching and learning by means of academic staff. In well-functioning institutions, these academics are supported by staff responsible for administration, finance and infrastructure. These support staff are mostly non-academics and collectively function in support divisions.

Government funding committed to higher education in South Africa proportionally declined from 4% in 1999 to 2.5% in 2007, while student numbers increased and staff numbers remained static (Anon., 2010:18). This results in less funding to institutions of higher education to educate more students with little or no growth in the number of educators or support staff. These institutions are all too familiar with these downward adjustments when it comes to annual budgeting, where growth in operational budgets more than inflation is not common.

The continued pressure on resources made available for employee remuneration leads to fewer new positions being created at institutions of higher education. Support divisions, being non-academic, and therefore not core business, stand last in queue for growth in their staff compliment. This necessitates particularly these support divisional managers to see to it that a high level of productivity is maintained despite these

constraints. It is believed that the work engagement of staff plays an instrumental role in reaching high production targets.

Since World War II, the attention of psychology was predominantly focused on the undesirable and negative aspects of human behaviour. Psychology became a science of healing mankind of these undesirable behaviours with little or no attention on building positive outcomes (Seligman & Csikszentmihalyi, 2000:5; Schaufeli & Salanova, 2007:137).

With the recent emergence of positive psychology, the focus moved away from the negatives to the strengths and optimal functioning of human beings. This led to the simultaneous emergence of a new psychological concept, called work engagement (Schaufeli & Salanova, 2007:135).

Schaufeli and Baker (2004:294) describe work engagement as the “positive antipode of workplace burnout”. Schaufeli and Salanova (2007:140) claim that work engagement can be seen as the opposite and positive side of burnout, a negative work-related state of mind. Work engagement and burnout, however, are two distinctive negatively correlated statuses, not to be mistaken for two opposite ends of a single range (Schaufeli, Salanova, González-Romá & Bakker, 2002:83).

Schaufeli and Salanova (2007:141) claim that engaged staff have an enthusiastic and effective association with their jobs and are also able to deal with the demands of their jobs. Chughtai and Buckley (2008:48) make the statement that the positive consequences for the organisation are the driving force behind the significance of work engagement.

According to Schaufeli and Salanova (2007:152), various previous empirical research on work engagement reports that high levels of work engagement lead to heightened organisational commitment, greater than before job satisfaction, lower absenteeism, lower staff turnover rates, good mental health and well-being, higher performance and a grander demonstration of individual creativity, proactive behaviour and learning drive, and even that it positively relates with business performance.

Chughtai and Buckley (2008:49) come to the conclusion that it is vital for organisational growth and profitability to invest in conditions that nurture work engagement among staff members.

The job demand-resources model of Bakker and Demerouti (2007:313) proposes, in short, that work engagement among others may first of all be notably influenced by job demands, aspects requiring intense bodily and mental effort, and job resources including job autonomy, feedback, social support and supervisor coaching. Secondly, job demands and job resources bring about psychological processes, of which the motivational process is most likely to lead to positive outcomes such as greater organisational commitment, improved job performance and work engagement.

This job demand-resources model has been the basis of much research to establish the positive relation between job resources and work engagement. The downside identified is that research and the empirical testing of the influence of other personality, psychological or situational variables on work engagement are scarce. In order to help fill this identified knowledge gap, Chughtai and Buckley (2008:50) analysed the impact of *state trust* (one person's assessment of the trustworthiness of another) and *trait trust* (tendency to trust or distrust others) on work engagement within organisations.

Chughtai and Buckley (2008:50) focused on the three foci of state trust, namely an individual's perception of the trustworthiness of top management, their immediate supervisor and their co-workers; however, for the purpose of this study, I will only focus on the state trust in immediate supervisors. Chughtai and Buckley (2008:51) concluded that the relationship between state trust, trait trust and work engagement is mutually reinforcing over time, that work engagement is boosted by high levels of trust and that trust as psychological variable can induce work engagement.

Mayer, Davis and Schoorman (1995:712) were frontrunners in the definition of trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party".

A myriad of definitions of trust has come to the fore over the years with no generally accepted definition as yet reached. A summary of some of these numerous definitions on trust has been listed by Burke, Sims Lazzara and Salas (2007:608) and they provide a review of the antecedents of trust in leadership. Their antecedents listed for trust are ability, benevolence and integrity, also noted by Mayer *et al.* (1995:717) many years ago. In their study, McEvily and Tortoriello (2011:33) counted a total of 38 different

dimensions of trust across 46 multi-dimensional measures identified for trust, but integrity, ability and benevolence still came out on the top of the list.

Accepting that trust in leadership, including immediate supervision, can be measured by ability, benevolence and integrity, contextual definitions are needed. Burke *et al.* (2007:614) note ability to be the acquired sum of characteristics, competencies and skills permitting a supervisor to have influence in a specific organisational structure. Mayer *et al.* (1995:718) define benevolence as the extent to which a supervisor is believed to want to do good to his employees. McEvily and Tortoriello (2011:60) define integrity as the belief that the supervisor adheres to a set of principles that the employee finds acceptable.

Previous research confirms that trust in a direct supervisor does have an influence on organisational outcomes, such as work engagement. Chughtai and Buckley (2008:56) state that if employees do have trust in the competence and abilities of the direct supervisor, there could be an increase in work engagement because employees would be more confident to rely on the supervisor when they come across work-related barriers.

Research by Schaufeli and Salanova (2007:164) established that work engagement is also positively influenced by coaching of the supervisor. This coaching can be in the form of assistance to employees in reaching their organisational goals, organising or reorganising their work, highlighting weaknesses without being victimised, taking an active role in the development of employees and their career paths, and offering advice as needed. According to Mayer *et al.* (1995:720), this coaching and support are only possible if the supervisor is knowledgeable about the total organisation, the practical trade at hand and the profession, and is interpersonally wise and politically smart.

Schaufeli and Bakker (2004:298) advocate that employees' trust in the competence and abilities of their immediate supervisor is likely to make them realise that they have the necessary resources to successfully achieve their required organisational goals. This should provide them with the confidence to exert more effort in their work, which may result in greater work engagement.

The question then is when will an employee's work engagement be at the highest level? What dimensions of work engagement need to be addressed to best promote work

engagement? Does the leadership trust of an employee in his/her direct supervisor influence his/her work engagement? What dimensions of leadership trust comes to the fore in an employee's evaluation of his/her leaders? Which dimensions of leadership trust relate the best to the dimensions of work engagement? Is it possible to use some dimension of leadership trust to predict one or more of the dimensions or sub-dimensions of work engagement, or *vice versa*? All these unanswered questions leave us with the following thought: *Is it of any value to understand the relationship between leadership trust and work engagement?*

The best way to answer all these questions is to first investigate whether previous research on **leadership trust** and **work engagement** does exist. If so, does it answer the questions, and if not, what needs to be done in order to answer these questions?

According to Green (2012:2), trust is where a relationship has formed between a trustee and a trustor. Trust is the forging of a bond with another. The trustee's role is to be trustworthy, while the role of the trustor is to take on the risk. There can be no trust without risk. The roles of trustee and trustor must also exchange from time to time. A state of trust is established when both the trustee and the trustor honour their respective roles. Trust will, however, quickly disappear whenever any of the two parties fail in their respective roles.

A trustee is "a person in whom confidence is put" (OED Online, 2012a) by a trustor, who is one whom relies or believes in another (OED Online, 2102b). In the work environment, people who are entrusted to lead others, the managers or leaders, are then the trustees and the employees are then by default the trustors.

For the sake of this study, my focus will be on the interpersonal or vertical trust between an employee and a leader, to which I will refer to as leadership trust.

Green (2012.2) is of the opinion that today's leaders are operating in flatter, more horizontal or so-called 'virtual business structures'. Today's leaders should therefore rely on the 'power of trust' to lead, as opposed to the old way of operating in vertical or hierarchical structures; attaining 'power to manage' through these structures. Today's leaders must therefore be skilled in 'the art and science of trust'!

Gentle (2010:56) noted that trust is not derived from one single act, but is formed over a period of time from a series of actions, and these actions may be either good or bad, intentional or unintentional. Van der Ohe and Martins (2010:2) define trust as a process in which the employee relies on the leader to act according to the specific expectations of the employee without the leader taking advantage of the vulnerabilities of the employee.

Dirks and Ferrin (2002:612) differentiate between two perspectives of trust in leadership. The 'relationship-based perspective' focuses on the nature of the 'follower-leader relationship' and how the employee perceives or understands this relationship. The second, the 'character-based perspective' focuses on the employee's perception of the leader's character and how it influences his/her sense of vulnerability in this 'follower-leader relationship'. In both perspectives, leadership trust is a perception of the employee, which is measured by the employee and not an attribute of the leader or the 'follower-leader relationship'.

In their study of the concept of trust and the subsequent development of a measurement instrument to measure trustworthiness, Schoorman, Mayer and Davis (2007:345) concluded that 'trust is based in relationships' and that 'ability, benevolence and integrity can contribute to trust' and should therefore be good measurements of employee trust in leadership. Schoorman *et al.* (2007:347) also defined trust as 'a willingness to be vulnerable to another party'; therefore, the measurement of to which extent an employee is willing to voluntarily take risks at the hand of his/her leader would also be a good measure of employee trust in leadership. Gillespie (2012:178), however, provided evidence that the measure of perceived trustworthiness cannot be used as a measure for trust, and developed the Behavioural Trust Inventory as a measure of behavioural trust.

In view of the above, leadership trust is the trust that employees place in their leaders; to be fair unto them, to take care of them and to protect their interests. The development of leadership trust should therefore be a key objective of every leader of people and organisation, and once it is achieved, it should be nurtured and built on continuously.

If we then think of the role that leadership trust plays in the work environment today, we can then argue that if an employee fully trusts his/her leader, and the leader calls for greater productivity, it is supposed to promote productivity and reduce unproductivity.

The same goes for a leader creating a protective environment for creativity, which should then stimulate creativity in employees without the fear of being called names or said to waste precious resources, resulting in creativity to flourish. Therefore, trust in leadership is supposed to promote work engagement work.

Kahn (1990:694), an old but reputable source still noted to date, defines engagement as “the harnessing of organizational members’ selves to their work roles” by which they “employ and express themselves physically, cognitively and emotional during role performances”. Rothmann (2008:10) defines engagement firstly as “the attachment of organisation members’ selves to their work roles [by which they] employ and express themselves physically, cognitively and emotionally during role performances” and secondly as “a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption”. Schaufeli and Bakker (2004:295) define engagement as “a positive and fulfilling work-related state of mind, characterized by vigour, dedication and absorption”.

Schaufeli, Bakker and Salanova (2006:701) have taken engagement a step further and define work engagement as “a positive work-related state of fulfilment that is characterized by vigor, dedication and absorption”. Vigour, dedication and absorption therefore form the cornerstones of work engagement and they also consider work engagement to be an antipode of burnout.

In view of the above, work engagement can be defined as the positive association of employees themselves to their employment roles leading to the fulfilling expression of themselves physically, cognitively and emotionally in performing their specific work-related roles characterised by vigour, dedication and absorption.

In conclusion, looking at the two concepts of leadership trust and work engagement, I argue that the positive association that employees may have towards their employment roles may definitely be influenced by the trust they place in their leaders. Therefore, work engagement may be dependent on leadership trust.

Victor Hugo said: “There is one thing stronger than all the armies in the world, and that is an idea whose time has come” (Baird, 2002:225). Maybe this research is an idea whose time has come!

1.3 Purpose of the study and problem statement

The purpose of this study was to conceptualise the relationship between leadership trust and work engagement: By analysing the relative strength and impact of sub-dimensions of leadership trust on work engagement, I intended to develop a model that would quantify the influence of specific sub-dimensions of leadership trust on work engagement.

Previous research on leadership trust and its influence on work engagement are minimal (Chughtai & Buckley, 2008:63; Hassan & Ahmed, 2011:751). Chughtai and Buckley (2008:50) were among the very few researchers who have tried to address this void, accentuating the growing need to study the influence of other personality, psychological and situational variables on work engagement to gain insight and a better understanding of this construct

Chughtai and Buckley (2008:65) specifically highlighted the need to provide additional empirical evidence of the relationship between high trust in an immediate supervisor and its impact on an employee's work engagement. This study therefore will add to the body of knowledge on the relationship between leadership trust and work engagement.

Almost all organisations have leader-follower relationships and this study is therefore relevant to all organisations, and even more so to those organisations that have numerous levels of leader-followers. The development of the proposed model may therefore provide useful insight into organisations and leaders themselves seeking to optimise their employees' work engagement.

Mishra (2012:6) listed employee productivity, creativity, innovation and engagement as the most important benefits of trust. Furthermore, trust facilitated increased performance and aided employee job satisfaction, but it also measured a leader's effectiveness.

Jack Beach of IBM (as quoted by Mishra, 2012:6) said that "Leaders create organizational climates in which people trust leaders, leaders trust their people, people trust each other, and people trust themselves to be able to use their judgements, make choices, and act within corporate intent. Without that you can only boss and micromanage; you cannot lead".

The value of this study would lie therein that leaders will have insight into which sub-dimensions of leadership trust would more so promote the work engagement of their employees, thereby creating a positive working environment and optimal functioning of employees and departments – a win-win situation for organisation, leaders and employees.

In conclusion, this study aimed to provide answers to the following questions: What is the nature of the relationship between leadership trust and work engagement? Will it be possible to predict work engagement from one of the sub-dimensions of leadership trust?

1.4 Research objectives

The research objectives are divided into primary and secondary objectives.

The **primary objective** of this research was to conceptualise the relationship between the dimensions of leadership trust and work engagement.

In order to address the primary objective, the following **secondary objectives** have been identified:

- To establish a theoretical base on leadership trust and work engagement, as well as all the sub-dimensions of both the constructs;
- To source documented authenticated measuring instruments on both leadership trust and work engagement to use in an amalgamation with a biographical questionnaire;
- To empirically test the relationship between leadership trust and work engagement by attaining primary data from an appropriate unbiased sample and statistically analysing it;
- To statistically ascertain which sub-dimension of leadership trust has the strongest relationship with work engagement;
- To suggest a model for predicting work engagement from leadership trust; and

- To make recommendations to management on how to improve engagement based on the findings.

1.5 Research methodology

According to Welman, Kruger and Mitchell (2010:2), research is a process of obtaining scientific knowledge by being objective in different methods and procedures. The OMSD (1998: 533) explains the word **research** as the “careful study or investigation to discover facts or information” and it is derived from the old French word “*reserch*”, meanings careful search.

Welman *et al.* (2010:2) further suggest that research methods and techniques are the tools used to do the research, but that research methodology is the wider concept that considers and explains the logic behind these tools.

The intended research on the specific objectives will be done in two phases. The first phase is a literature review, where secondary data from published sources are gathered and presented in an organised way. Secondly, hypotheses are formed or relationships are indicated from this literature, which will then be measured and tested by an empirical study to be conducted.

1.5.1 Phase 1: Literature review

A literature review sets the stage to understand where research on a specific subject started, where it is now and where it should go in future. The purpose of a literature review is to summarise the primary findings and knowledge from previous relevant research (Werkmeister Rozas & Klein, 2010:394-395).

A thorough analysis of the existing literature on the subjects of leadership trust and work engagement, together with their relevant sub-dimensions, will be done during the literature review.

The findings from the literature review will help to present a clear understanding of the two constructs, the possible relationship between them and what research has already been done on the subjects.

The sources that are consulted must be credible (De Vos, Strydom, Fouché & Delport, 2005:127) and will include, but are not limited to:

- Articles in relevant professional journals;
- Conference, symposium and workshop presentations;
- Dictionaries and standardised reference materials;
- Dissertations, mini-dissertations, research reports and theses;
- Libraries and organisations;
- Scientific books;
- Scientific databases, such as EBSCOhost, JSTOR and ScienceDirect;
- The Internet; and
- The so-called 'grey' literature, including relevant documents from departmental guidelines, organisations, publications and others

1.5.2 Phase 2: Empirical study

The empirical study sets apart and explains the research design, the intended participants, the measuring instruments envisaged as well as a description of the statistical analysis to be used.

(a) Research design

The fundamental principles of a good research design, according to Bono and McNamara (2011:659), are to match the design to the question, match the construct descriptions with operations, carefully stipulate the model, use measures with recognised construct validity, and lastly, to select appropriate samples and procedures.

De Vos *et al.* (2005:160) divide validity into two parts. Firstly, that the measuring instrument actually measures the concept in question and, secondly, that the concept is measured accurately.

According to Black (1999:57), external validity is the ability to apply the findings of a specific study to similar situations with other subjects, while internal validity addresses the reasons for the outcomes of the study. The factors that could jeopardise internal validity and the generalisations derived from it, the so-called external validity, need to be identified in order to control these sources of variances.

The aim of a research design is to provide a plan of the intended study and an outline of how the research would be conducted. This permits an accurate assessment of the cause and effect relationships between the chosen independent and dependent variables.

Hoe and Hoare (2012:55) explain that quantitative research is used in studies to test hypotheses, to determine relationships between constructs and to measure the frequency of the occurrences in a sample. Qualitative research, on the other hand, is used to gain an understanding of the human experience; how people make sense of a specific topic (Hoe & Hoare, 2012:54).

The advantages and disadvantages of quantitative research, according to Füllemann, Breitenmoser and Fischl (2011:6) are listed in Table 1-1.

Table 1-1: The advantages and disadvantages of quantitative research

Advantages	Disadvantages
Objective view	Cavity between conception and reality
Replicable results	Lack of flexibility due to researcher predetermination
Highly measurable; Statistical analysis is possible	Limited responses to complex questions
Focused research questions	Not applicable if no theory is available
Understandable measures (Counting and scales)	Non-acceptance by qualitative research community
Structured	Threat of nonsense
Less time consuming and more cost effective	
Able to isolate variables to discover casual relations	

(Source: Adapted from Füllemann et al., 2011:6)

According to Rosmarin, Wachholtz and Ai (2011:409), descriptive research focuses on the identification of relationships, while exploratory research focuses on identifying the core reasons behind these identified relationships.

From the above facts and explanations, it was clear that descriptive quantitative research was exactly what needed to be done for the purpose of this mini-dissertation, where data need to be collected from a sample of respondents to measure the relationship between two constructs as well as to measure the frequency of the occurrences. Qualitative research could be complementary to validate the quantitative research results, but due to time constraints, this avenue would not be followed (Anon., 2012).

The proposed research can then be classified as descriptive with only quantitative research being undertaken. The specific design that will be used is therefore a cross-sectional survey design, where a single questionnaire will be assembled from validated standardised questionnaires. The identified participants will be requested to complete the questionnaire only once. This study will use an Internet-based platform using FluidSurveys' online surveys to collect primary data from a convenience sample of respondents.

(b) Participants

Permission was obtained from the Rector of the identified institution of higher education to do the study on the support staff of the Campus. The main component of support staff resorts under the Campus Registrar, the Chief Director Finance & Facilities, the Dean of Students and the Director Marketing & Communications. There are, however, also support staff within the academic functions resorting under the Vice-rector: Teaching-Learning, Vice-rector: Research and Planning, as well as the newly-formed Unit for Open Distance Learning, whom will also be included in this study.

I foresee literacy as well as an Internet access problem with the lower employment levels 14 through to 19 of the employees in the proposed support functions and therefore I am excluding these employees from the onset.

Employees at the identified institution of higher education, who will be requested to participate in the survey, range from the campus rector at top management level 2, right through to administrative employees at level 13, male and female, temporarily and permanently employed, with different educations, ages and race groups. Almost all of these support functions have several levels of reporting, which will allow for many follower-leader relationships to be present.

Therefore, including the Campus Rector and all his direct reports, together with their respective support staff members up to peromnes level 13, a possible sample size of 500 respondents exists.

(c) Measuring instruments

The two constructs to be measured are leadership trust and work engagement.

McEvily and Tortoriello (2011:42) did an extensive review of previous organisational literature on the measurement of trust and found that “a more coherent and unified approach” is needed to curb both the severe fragmentation in measurement instruments as well as “the availability of several carefully developed and rigorously validated instruments”. Gillespie (2012:175) also identified this gap in the market for a good psychometric measurement instrument of trust. She then developed the Behavioural Trust Inventory [BTI] in her quest for a suitable trust measurement scale, which will be used to measure the construct of leadership trust. The Behavioural Trust Inventory was published in 2003. The BTI is a 10-item measurement, which is designed to measure trust in relationships with leaders, subordinates or peers. The measure has two factors, namely ‘disclosure-based trust’ and ‘reliance-based trust’ (Gillespie, 2012:181). I will, however, use the BTI to only measure trust in a leader in the follower-leader relationship, as set out. McEvily and Tortoriello (2011:35) listed the BTI as one of the five noteworthy measures of trust. This ranking was done out of the 129 different identified measures of trust (McEvily & Tortoriello, 2011:23).

The construct of work engagement will be measured with the Utrecht Work Engagement Scale [UWES] (Schaufeli & Bakker, 2004a). The UWES was developed and is aimed at measuring work engagement. The UWES was originally developed by Schaufeli and Bakker and had 24 items in the questionnaire. After psychometric evaluation, however, seven unsound items were removed from the original 24 items (Schaufeli *et al.*, 2006). The long version of this instrument consists of 17 items, and is scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always).

The two constructs as well as their sub-dimensions can be assessed with the above questionnaires. These two questionnaires will be combined, together with basic biographical questions, in a single questionnaire to be electronically distributed for completion by the anticipated participants using FluidSurveys’ online surveys.

(d) Ethical considerations

The first ethical consideration taken into account was to get the necessary consent for the research from the institution where the research is to be undertaken. A ***Student Statement on Research Ethics*** declaration was successfully submitted to the applicable faculty's research entity to obtain this permission.

The second ethical consideration was on the intention to make use of staff members of the institution, which necessitated the submission of an ***Ethics Application Form***. This serves as an application to the Research Ethics Committee of the institution to obtain approval for a scientific project with human participants where factors such as voluntary participation and anonymity are guaranteed. The necessary approval was also obtained for this application.

(e) Statistical analysis

An electronic data download from the cross-sectional survey's completed questionnaires, as received from FluidSurveys' online survey, will be taken to the North-West University's Statistical Consultation Services. Data will be analysed with the IBM 2013 SPSS Statistics Version 21 program (IBM, 2013b).

Descriptive statistics will be used to calculate frequencies, means and standard deviations on the sub-dimensions of leadership trust and work engagement. Pearson's product-moment and Spearman rank-order correlation coefficients will be used to assess relationships between the latent variables. If sufficient data are available, predictive modelling will be attempted using linear regression. This will enable us to make recommendations regarding the relationship between leadership trust and work engagement.

Structural equation modelling may also be a possibility if the statistics indicate a possibility that some sub-dimensions of leadership trust may predict work engagement, which may lead to the suggestion of a model on predicting work engagement from leadership trust.

Werkmeister Rozas and Klein (2010:397) warn that often exorbitant number crunching and seemingly technical superiority may lull researchers into thinking they know it all. They also credit Einstein for saying "*not everything that can be counted counts, and not*

everything that counts can be counted'. This advice would not be taken lightly during the statistical analysis!

1.6 Limitations or anticipated problems

The study requires only subordinates to complete the questionnaires evaluating the follower-leadership trust relationship of their **direct supervisor** and not the manager at the top of the subordinate's hierarchy. No supervisor will be requested to evaluate any of his/her subordinates.

The 500 identified respondents should all be literate, as it is one of the prerequisites for levels 13 and higher to be appointed and to my knowledge all 500 of the intended respondents do have access to a computer and Internet facilities on a daily basis.

The terms used and the instructions, in both the request to complete the questionnaires and the questionnaire itself, should be very clearly explained in both Afrikaans and English, in order to eliminate any misunderstanding due to language incompetency.

The use of an online survey such as FluidSurveys to collect primary data may result in a low response rate from employees at work who may claim that they do not have time to complete the survey due to time constraints or work responsibilities. This could negatively influence the statistical analysis, hamper empirical testing and recommendations to management.

1.7 Chapter division

The chapters in this mini-dissertation are presented as follows:

Chapter 1: Introduction and problem statement

Chapter 2: Literature review

Chapter 3: Methodology

Chapter 4: Empirical results and findings

Chapter 5: Conclusions and recommendations

1.8 Chapter summary

In this chapter, a background to the intended research and previous research on the topics was provided and a problem statement was defined. The research objectives were divided into primary and secondary objectives. The research methodology, divided into the literature study and the empirical study, including the research design, participants, measuring instruments and statistical analysis, was explained. Lastly, the limitations of the research as well as the chapter divisions were explained.

In the following chapter, a comprehensive literature review on the constructs of leadership trust and work engagement will be provided.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The purpose of a literature review is to do a critical evaluation of former research on the identified constructs and related subjects, which will provide background to the proposed study. In this chapter, a comprehensive literature review on the constructs of *leadership trust* and *work engagement* will follow.

As indicated in Chapter 1, there is minimal previous research on leadership trust and its influence on work engagement (Chughtai & Buckley, 2008:63; Hassan & Ahmed, 2011:751).

To fully understand leadership trust and work engagement, all the different antecedents and dimensions of both constructs need to be identified, clearly defined and possible relationships exposed.

This may lead to the identification of factors influencing these constructs and the consequences thereof on leadership trust and work engagement. Further to this, it may also reveal relationships between the two constructs, which will strengthen the body of knowledge on these constructs.

2.2 Leadership trust

This research project's first construct to be explored is leadership trust. The focus will be on the interpersonal or vertical trust between an employee and his/her leader, henceforward referred to as leadership trust.

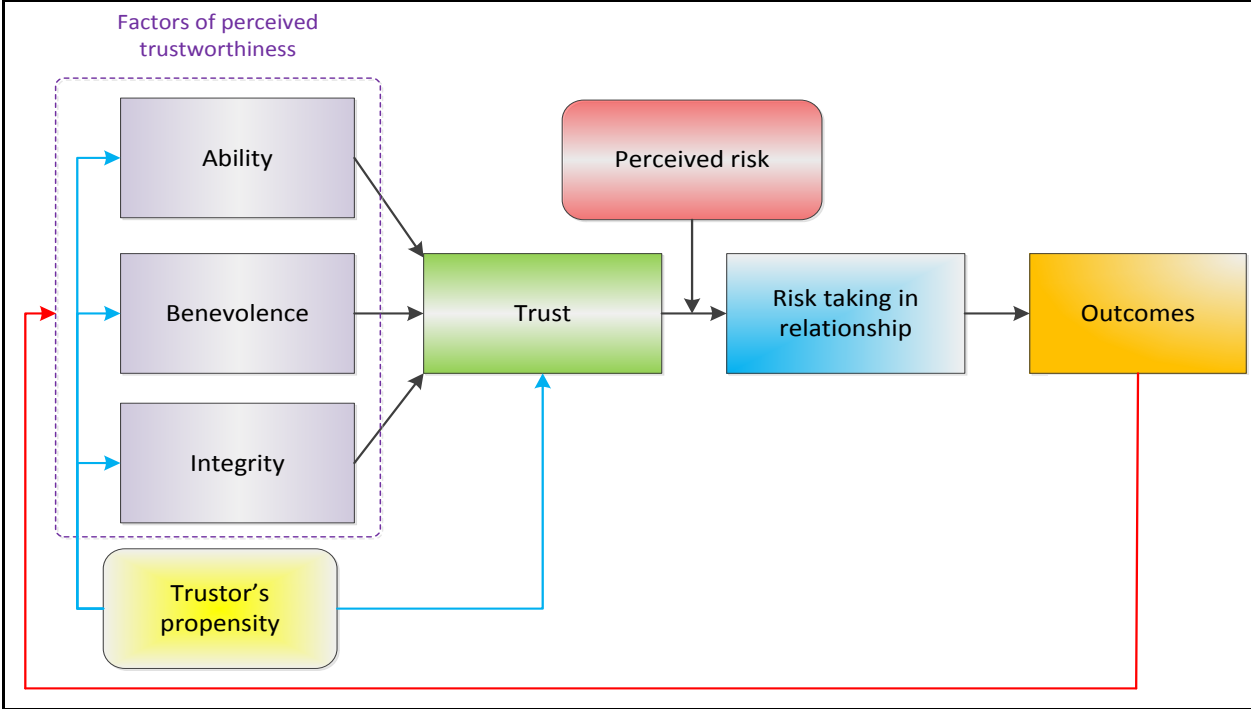
An exploration of the literature on leadership trust will firstly be done to arrive at an acceptable definition of leadership trust, secondly, to understand the antecedents of leadership trust, and lastly, to identify the dimensions of leadership trust.

2.2.1 Definition of trust

According to Green (2012:2), trust is where a relationship has formed between a trustee and a trustor. Trust is the forging of a bond with another. The trustee's role is to be trustworthy, while the role of the trustor is to take on the risk. There can be no trust

without risk. The roles of trustee and trustor must also exchange from time to time. A state of trust is established when both the trustee and the trustor honour their respective roles. Trust will, however, quickly disappear whenever any of the two parties fail in their respective roles. Gentle (2010:56) noted that trust is not derived from one single act, but is formed over a period of time from a series of actions and these actions may be either good or bad, intentional or unintentional.

Over the years, a myriad of definitions of trust have come to the fore. Burke *et al.* (2007:608) listed a summary of some of these numerous definitions of trust. Common elements to most definitions of trust include the fact that it involves at least two or more parties within a contextual relationship involving expectation and risk-taking. Most of these definitions address some, but not all, of the elements entailing trust. Mayer *et al.* (1995:712) did, however, capture the essence of all elements in their benchmark definition of trust. Mayer *et al.* (1995:715) proposed a model of trust, which is displayed in Figure 2-1.



Source: Mayer *et al.* (1995:718)

Figure 2-1: Model of trust

Rousseau, Sitkin, Burt and Camerer (1998:395) thereafter went on and defined trust as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another”. McEvily and Tortoriello

(2011:24) highlight that this latest definition stresses two important elements of trust, namely “the willingness to be vulnerable” and “the expectation of favourable treatment”.

McEvily and Tortoriello (2011:24) made the case that, from a conceptual view, organisational research is increasingly converging on the Rousseau *et al.* (1998:395) definition of trust, together with the Mayer *et al.* (1995:712) definition of trust. According to the Web of Science (2013), these two articles have been cited 1 195 and 2 360 times respectively by 11 September 2013. Gillespie (2012:175) also draws attention to the increasing convergence in organisational literature to the above-mentioned two definitions of trust.

In light of the above, this conceptualisation by Mayer *et al.* (1995:712) of trust, namely that trust is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” will henceforward be explored within the context of leadership.

2.2.2 Definition of leadership trust

Dirks and Ferrin (2002:612) differentiate between two perspectives of trust in leadership. The ‘relationship-based perspective’ focuses on the nature of the ‘follower-leader relationship’ and how the employee perceives or understands this relationship. The second ‘character-based perspective’ focuses on the employee’s perception of the leader’s character and how it influences his/her sense of vulnerability in this ‘follower-leader relationship’. In both perspectives, leadership trust is primarily based on the perceptions of the employee; whether accurate or not.

Schoorman *et al.* (2007:345) concluded that “trust is based in relationships” and that “ability, benevolence and integrity can contribute to trust” and should therefore be good measurements of employee trust in leadership. Schoorman *et al.* (2007:347) also defined trust as “a willingness to be vulnerable to another party” and, therefore, the measurement to which extent an employee is willing to voluntarily take risks at the hand of his/her leader would also be a good measure of employee trust in leadership.

Chughtai and Buckley (2008:50) focused on the three foci of state trust, namely an individual’s perception of the trustworthiness of top management, his/her immediate supervisor and his/her co-workers; however, for the purpose of this study, I will only

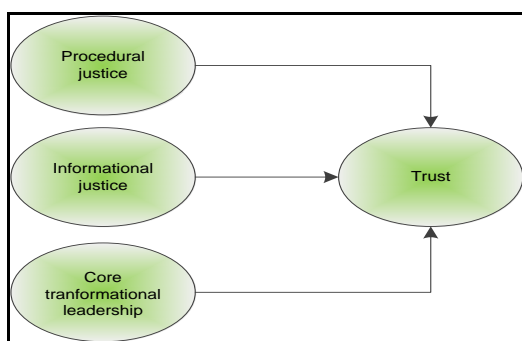
focus on the state trust in immediate supervisors. Chughtai and Buckley (2008:51) concluded that the relationship between state trust, trait trust and work engagement is mutually reinforcing over time, that work engagement is boosted by high levels of trust and that trust as psychological variable can induce work engagement.

Van der Ohe and Martins (2010:2) define trust as a process in which the employee relies on the leader to act according to the specific expectations of the employee without the leader taking advantage of the vulnerabilities of the employee.

Green (2012:2) is of the opinion that today's leaders are operating in flatter and more horizontal or so-called 'virtual business structures'. Today's leaders should therefore rely on the 'power of trust' to lead employees as opposed to the old way of operating in vertical or hierarchical structures; attaining 'power to manage' through these structures. Today's leaders must therefore be skilled in 'the art and science of trust'.

2.2.3 Antecedents of leadership trust

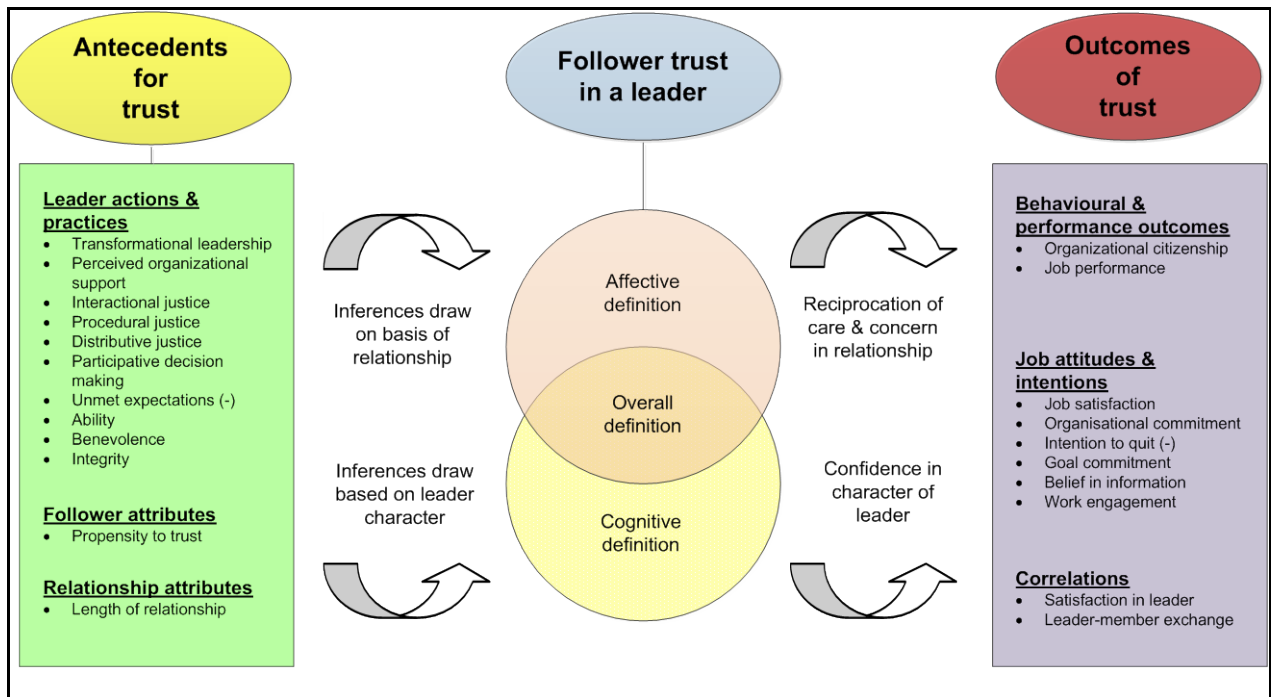
Mayer *et al.* (1995:717) as well as many other researchers, listed ability, benevolence and integrity as the antecedents for trust. Accepting that leadership trust, including immediate supervision, can be measured by ability, benevolence and integrity, contextual definitions are needed. Gilstrap and Collins (2012:153) suggest that trust in one's leader mediates relations between the three antecedents for trust and job satisfaction. Gilstrap and Collins (2012:153) adapted the model of trust of Mayer *et al.* (1995:717) and proposed an integrative model of trust, where procedural justice signals integrity, informational justice denotes benevolence and core transformational leadership represents ability. This integrity, benevolence and ability in their turn then signal trust, as depicted in Figure 2-2.



Source: Adapted from Gilstrap and Collins (2012:153)

Figure 2-2: Adapted integrative model of trust

Dirks and Ferrin (2002:614) describe three types of justice that are relevant to trust. The first is distributive justice, which involves the allocation of outcomes; the second is procedural justice, dealing with the methods that lead to decision outcomes; and the last is interactional justice, being the interpersonal treatment people receive as procedures are brought about. Dirks and Ferrin also suggest other antecedents, such as leadership style. An adapted version of their framework for trust in leadership is displayed in Figure 2-3



Source: Adapted from Dirks and Ferrin (2002:614)

Figure 2-3: Adapted framework for trust in leadership

(a) Ability

Burke *et al.* (2007:614) note ability to be the acquired sum of characteristics, competencies and skills permitting a supervisor to have influence in a specific organisational structure. Gilstrap and Collins (2012:153) describe ability as the collective skills and competencies a trustee has that could make him/her influential in a specific area. The display of these competencies fosters perceptions with the trustor that the trustee has the necessary knowledge to be successful, which in turn encourages the development of trust.

(b) Benevolence

Mayer *et al.* (1995:718) define benevolence as the extent to which a supervisor is believed to want to do good to his employees. Gilstrap and Collins (2012:153) confirm this definition, stating that benevolence is the extent to which a trustee is perceived to act for the benefit of the trustor instead of a pure egocentric motive.

(c) Integrity

McEvily and Tortoriello (2011:60) define integrity as the belief that the supervisor adheres to a set of principles that the employee finds acceptable. Gilstrap and Collins (2012:153) make the case that integrity suggests that the trustee “adheres to a set of principles that the trustor finds acceptable”.

2.2.4 Dimensions of leadership trust

McEvily and Tortoriello (2011:33) listed a total of 38 different dimensions of trust across 46 multi-dimensional measures identified for trust, but integrity, ability and benevolence still came out on the top of the list.

Dirks and Ferrin (2002:616), Gillespie (2012:178) as well as McEvily and Tortoriello (2011:36) warn on the wrongful usage of measures of perceived trustworthiness rather than adopting trust instruments that directly measure the willingness to be vulnerable or the intention to accept vulnerability.

2.3 Work engagement

Work engagement is the second construct explored in this research project that needs to be thoroughly understood. The literature on work engagement will be explored, striving to get clear answers on the definition of work engagement; and secondly, the understanding of the antecedents of work engagement; and lastly, the dimensions of work engagement.

2.3.1 Definition of engagement

The construct of engagement is naturally incorporated within the field of positive psychology (Seligman & Csikszentmihalyi, 2000:5). According to Macey and Schneider (2008:3), the use of the term ‘engagement’ is ambiguous among academic researchers

and practitioners, as the term is used at different times to refer to psychological states, traits, and behaviours as well as their antecedents and outcomes. Mills, Culbertson and Fullager (2012:520) note that, although there are diverse definitions of engagement within the literature, there are commonalities that are accepted by both practitioners in the field as well as academic researchers.

One of the pioneers in the study on engagement, William A Kahn, an old but reputable source still noted to date, defines engagement as “the harnessing of organizational members’ selves to their work roles” by which they “employ and express themselves physically, cognitively and emotional during role performances” (Kahn, 1990:694).

A deep-rooted source on engagement, Schaufeli *et al.* (2002:74), defines engagement as a multi-dimensional, positive, fulfilling, and work-related state of mind. Furthermore, engagement refers to a more tenacious and widespread emotional mental state, not focused on any specific event, individual, object or behaviour and not a temporary and precise state. Schaufeli *et al.* go on to outline the three dimensions of engagement as vigour, dedication, and absorption.

Schaufeli and Baker (2004:295) define engagement as a positive, fulfilling, work-related state of mind, characterised by vigour, dedication and absorption; the positive antipode of burnout.

The negative antipode of engagement is burnout, and, according to Hakanen and Schaufeli (2012:415), the term ‘burnout’ was first introduced by psychologist Herbert Freudenberger in 1974, who described burnout as “a negative, job-related psychological state comprising a set of symptoms such as physical fatigue, emotional exhaustion, and loss of motivation”.

2.3.2 Definition of work engagement

Schaufeli *et al.* (2006:701) have taken engagement a step further to define work engagement as “a positive work-related state of fulfilment that is characterized by vigor, dedication and absorption”. These authors confirm the previous research by Schaufeli *et al.* (2002:74) that vigour, dedication and absorption form the cornerstones of work engagement.

Schaufeli *et al.* (2006:702) consider work engagement to be the antipode of burnout. Schaufeli and Salanova (2007:140) claim that work engagement can be seen as the opposite and positive side of burnout; a negative work-related state of mind.

Schaufeli and Salanova (2007:141) are of the opinion that engaged staff have an enthusiastic and effective association with their jobs and they are also able to deal with the demands of their jobs. Engagement refers to a mood rather than a passing, explicit, sensitive awareness; a more “persistent and pervasive affective-cognitive state” not exactly directed at any behaviour, event, individual or object. Schaufeli and Salanova (2007:152) further note that various previous empirical research on work engagement reports that high levels of work engagement lead to heightened organisational commitment, better than before job satisfaction, lower absenteeism, lower staff turnover rates, good mental health and well-being, higher performance and a grander demonstration of individual creativity, proactive behaviour and learning drive, and even that it positively relates to business performance.

Chughtai and Buckley (2008:48) make the statement that organisational, positive consequences are the driving force behind the significance of work engagement and therefore it is vital for the growth and profitability of organisations to invest in conditions that foster employee work engagement. Adekola (2011:84) suggests that “recent efforts to improve organizational performance have begun to emphasize positive organizational behaviour concepts and positive emotions”, which include concepts such as optimism, trust, and work engagement.

Rothmann (2008:10) continues in the same line as Kahn and goes on to define engagement firstly as “the attachment of organisation members’ selves to their work roles [by which they] employ and express themselves physically, cognitively and emotionally during role performances” and secondly as “a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption”.

Engagement by employees, as noted by Macey and Schneider (2008:4), is a desirable condition with organisational purpose, which suggests commitment, energy, enthusiasm, focused effort, involvement and passion. Employee engagement, therefore, shows elements of both attitude and behavioural components.

The job demand-resources model of Bakker and Demerouti (2007:313) proposes in short that work engagement, among others, may first of all be notably influenced by job demands, aspects requiring intense bodily and mental effort, and job resources including job autonomy, feedback, social support and supervisor coaching. Secondly, job demands and job resources bring about psychological processes, of which the motivational process is most likely to lead to positive outcomes such as greater organisational commitment, improved job performance and work engagement.

This job demand-resources model has been the basis of much research establishing the positive relation between job resources and work engagement. The downside identified is that research and empirical testing of the influence of other personality, psychological or situational variables on work engagement are scarce. In order to help fill this identified knowledge gap, Chughtai and Buckley (2008:50) analysed the impact of state trust (one person's assessment of the trustworthiness of another) and trait trust (tendency to trust or distrust others) on work engagement within organisations.

Saks and Rotman (2006:604) found that job characteristics, such as autonomy and feedback, nurture work engagement and a high level of work engagement consequently lowers an employee's intention to quit (Saks & Rotman, 2006:607).

2.3.3 Antecedents of work engagement

Sawang, Brough and Barbour (2009) identified job resources as an antecedent of work engagement. Job resources include time control, method control and social support. Social support again includes supervisory, colleague, friend and family support.

Adekola (2011:95) states that "work engagement results from job resources such as support and encouragement at work, feedback on performance about one's job performance, opportunities to use a wide variety of skills, discretion in how one undertakes one's job, chance to learn, initiatives that reduce the negative effects of workplace demands, and when employees values fit their organization's vision and mission".

2.3.4 Dimensions of work engagement

Schaufeli *et al.* (2002:74) characterise engagement as having three dimensions, namely vigour, dedication, and absorption. This characterisation is backed by Schaufeli *et al.* (2006:701), Schaufeli and Salanova (2007:141) as well as Chughtai and Buckley (2008:48).

(a) Vigour

An employee with vigour portrays high levels of energy and mental resilience while working, has a willingness to put effort into his/her work with continued persistence, notwithstanding any difficulties he/she may face (Schaufeli *et al.*, 2002:74). Schaufeli *et al.* (2006:702) conclude that employees with vigour are characterised by having high levels of energy and mental resilience at work with the willingness to put effort into their work, even when facing difficulties.

Chughtai and Buckley (2008:48) state that vigour “reflects the readiness to devote effort in one’s work, an exhibition of high levels of energy while working and the tendency to remain resolute in the face of task difficulty or failure”.

(b) Dedication

Employees with dedication have “a sense of significance, enthusiasm, inspiration, pride and challenge”, which is not the same as involvement (Schaufeli *et al.*, 2002:74). According to Schaufeli and Salanova (2007:141), dedication refers to employees being strongly involved in their work, experiencing a sense of significance, enthusiasm, inspiration, pride and challenge. Dedication, according to Chughtai and Buckley (2008:48), refers to “a strong identification with one’s work and encompasses feelings of enthusiasm, inspiration, pride and challenge”.

(c) Absorption

Absorption, the third dimension, refers to employees being deeply captivated by their work and entirely concentrating on their work, having a sense that time passes quickly plus they find it difficult to detach themselves from their work (Schaufeli *et al.*, 2002:75). Schaufeli *et al.* (2006:702) characterise absorption as being “fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties

with detaching oneself from work". According to Chughtai and Buckley (2008:48), absorption can be characterised by "being completely immersed in one's work, in a manner that time appears to pass rapidly and one finds it difficult to disengage oneself from work".

2.4 Leadership trust and work engagement: Any links?

Previous research confirming that leadership trust (trust in a direct supervisor) does have an influence on positive organisation outcomes such as work engagement does exist but as work engagement is a relative new concept within the positive psychology, very few articles could be found in this regard.

As also stated in chapter 1, previous research on leadership trust and its influence on work engagement are minimal (Chughtai & Buckley, 2008:63; Hassan & Ahmed, 2011:751). Chughtai and Buckley (2008:50) have tried to address this void and accentuated the growing need to study the influence of other personality, psychological and situational variables on work engagement to gain insight and a better understanding of this construct

Chughtai and Buckley (2008:65) specifically highlighted the need to provide additional empirical evidence of the relationship between high trust in an immediate supervisor and its impact on an employee's work engagement. This study therefore will add to the body of knowledge on the relationship between leadership trust and work engagement.

Schaufeli and Bakker (2004:298) advocate that employees' trust in the competence and abilities of their immediate supervisor is likely to make them realise that they have the necessary resources to successfully achieve their required organisational goals. This should provide them with the confidence to exert more effort in their work, which may result in greater work engagement.

Schaufeli and Salanova (2007:164) established that work engagement is also positively influenced by coaching by the supervisor. This coaching can be in the form of assistance to employees in reaching their organisational goals, organising or reorganising their work, highlighting weaknesses without being victimised, taking an active role in the development of employees and their career paths, and offering advice as needed. According to Mayer *et al.* (1995:720), this coaching and support are only

possible if the supervisor is knowledgeable about the total organisation, the practical trade at hand and the profession, and is interpersonally wise and politically smart.

Chughtai and Buckley (2008:56) claim that if an employee does have trust in the competence and abilities of his/her direct supervisor, there could be an increase in work engagement because the employee would be more confident to rely on the supervisor when he/she come across work-related barriers.

2.5 Chapter summary

In this chapter, the aim was to review the literature on leadership trust and work engagement to get a clear picture on what exactly is meant by these constructs. It was found that leadership trust is the trust that employees place in their leaders, to be fair unto them, to take care of them and to protect their interests. The development of leadership trust should therefore be a key objective of every leader of people and organisation, and once it is achieved, it should be nurtured and built on continuously.

Work engagement can clearly be defined as the positive association of employees themselves to their employment roles leading to the fulfilling expression of themselves physically, cognitively and emotionally in performing their specific work-related roles characterised by vigour, dedication and absorption.

In the following chapter, documented and authenticated measuring instruments on both leadership trust and work engagement will be reviewed. This would help to identify the best possible measuring instruments for the ensuing empirical testing.

Both leadership trust and work engagement need to be empirically tested to find relationships, if any, between the two concepts. The empirical research and the results thereof will be presented in the next chapter.

CHAPTER 3: EMPIRICAL RESEARCH

3.1 Introduction

In this chapter, the approach and design of the empirical survey as well as the measuring instruments are discussed to determine the relevance thereof and whether the empirical results will indeed contribute noteworthy new knowledge.

Documented and authenticated measuring instruments on both leadership trust and work engagement are reviewed. In this chapter, it is also determined whether the proposed measuring instruments do measure the concepts in question, and if they do, will it be an accurate measure of the concepts.

The participants used for the survey, together with the ethical considerations taken into account, are noted and the procedures followed in the data collection process are described.

3.2 Research approach

According to Welman *et al.* (2010:2), research is a process of obtaining scientific knowledge by being objective in different methods and procedures. Research methods and techniques are the tools used to do the research.

Black (1999: 57) defines external validity as the ability to apply the findings of a specific study to similar situations with other subjects while internal validity addresses the reasons for the outcomes of the study. The factors that could jeopardise internal validity and the generalisations derived from it, the so-called external validity, need to be identified in order to control these sources of variances.

De Vos *et al.* (2005:160) claim that for validity, firstly, the measuring instrument must actually measure the concept in question and, secondly, the concept must be measured accurately.

3.3 Research design

The advantages of quantitative research, according to Fülleman *et al.* (2011:6), are getting an objective view, measurable and replicable results, the possibility of statistical

analyses, structured and focused research questions with understandable measures, quick and cost effective with the possibility to isolate variables to discover casual relationships. In this study, data need to be collected from a sample of respondents to measure the relationship between two constructs as well as to measure the frequency of the occurrences. It is therefore clear that descriptive, quantitative research is exactly what is needed.

The specific design for this study is an Internet-based, cross-sectional survey, where participants are requested to complete a single online questionnaire that was assembled from two separate questionnaires together with basic biographical data in order to collect primary data from a convenience sample of respondents.

3.4 Participants

Permission was obtained from the Rector of the identified institution of higher education to conduct the study on the support staff of the Campus.

Support staff employees are employed in different peromnes levels. These peromnes levels range from the highest level two (2), which is occupied by the Rector of the institution, down to level nineteen (19), the lowest employee level at the institution.

Only employees from peromnes level two (2) down to level thirteen (13) form part of the intended sample; excluding all support staff on employment peromnes levels fourteen (14) down to level nineteen (19) from the onset. The literacy of employees from peromnes levels fourteen (14) down to level nineteen (19) was seen as a limiting factor to the study, together with these employees' work-related, limited access to computers and the Internet.

Employees at the identified institution of higher education, who were requested to participate in the survey, range from the Rector at top management peromnes level two (2), right through to administrative assistants at peromnes level thirteen (13), male and female, temporarily and permanently employed, with different levels of education, age and race groups.

Almost all of these support functions have several levels of reporting, which will allow for many a follower-leader relationship to be present. A total sample size of 500

respondents exists, which includes the Rector and all his direct reports, together with their respective support staff members up to peromnes level 13 employees.

3.5 Measuring instrument for leadership trust

The construct of trust will be measured with the Behavioural Trust Inventory [BTI] of which the original published questionnaire is displayed in Appendix A (Gillespie, 2012:175).

3.5.1 Behavioural Trust Inventory [BTI]

Gillespie (2012:175) identified a gap in the market from Figure 2-1 for a good psychometric measurement instrument of trust, and developed the BTI in her quest for a suitable trust measurement scale, which will be used to measure the construct of leadership trust. Gillespie (2012:178) advocates that the BTI is a specific measurement instrument for trust, which directly measures the willingness to be vulnerable or the intention to accept vulnerability. The BTI is therefore not a measure of perceived trustworthiness.

The BTI is a ten-item measurement that has been designed to measure trust in relationships with leaders, subordinates or peers; however, for the purpose of this study, the BTI will only be used to measure the trust in a leader by the follower in the follower-leader relationship.

The BTI measures two dimensions of trust, namely reliance-based trust and disclosure-based trust. Within the context of this study, reliance-based trust is the willingness of the respondent to rely on his/her leader's work-related skills, abilities and knowledge, whereas disclosure-based trust is the respondent's willingness to disclose sensitive work or personal information to his/her leader (Lee, Gillespie, Mann & Wearing, 2010:480).

The instructions to the respondents were to indicate how willing they are to engage with their leader in each of the statements. Scoring high on the reliance-based trust items indicates a high level of trust on the leader's work-related skills, abilities and knowledge, whereas low scores indicate distrust in leadership skills, abilities and knowledge. A high score on the disclosure-based trust items indicates confidence in and trustworthiness of the leader, while low scores indicate the opposite.

The first five items measure reliance-based trust and the last five items measure disclosure-based trust. All ten items are scored on a 7-point rating scale ranging from 1 (not at all) to 7 (completely), as depicted Table 3-1.

Table 3-1: Behavioural Trust Inventory [BTI]

1	2	3	4	5	6	7
Not at all	Almost never	Rarely	Sometimes	Often	Very often	Completely

The mean scale score of the BTI reliance-based trust sub-scale is calculated by adding the scores of the first five items and dividing it by five, whereas the mean scale score of the BTI disclosure-based trust sub-scale is calculated by adding the scores of the last five items and dividing it by five.

The total mean scale of the BTI is calculated by adding all ten item’s scores and dividing it by ten. The BTI therefore yields two sub-scale scores as well as a total score ranging from 1 to 7.

3.5.2 Reliability of BTI

The BTI is a standardised instrument with acceptable Cronbach alpha coefficients and, according to Gillespie (2012:184), the BTI significantly contributes to the forecasting of key leadership outcomes more so than the standing measure of trustworthiness.

3.5.3 Validity of BTI

Gillespie (2012:184) did a validation study that did provide evidence of the convergent validity of both the reliance-based trust scale and the disclosure-based trust scale. Gillespie’s factor analysis confirmed the divergent validity of the BTI indicating that “reliance and disclosure were distinct constructs from trustworthiness and distrust, as well as from each other”.

3.5.4 Permission

Permission to use this BTI measurement instrument for this study has been provided by Nicole Gillespie, the author of the Behavioural Trust Inventory, herself.

3.6 Measuring instrument for work engagement

The construct of work engagement will be measured by means of the Utrecht Work Engagement Scale [UWES]. The original English published questionnaire is displayed in Appendix B and the original author translated Afrikaans version of the questionnaire is displayed in Appendix C (Schaufeli & Bakker, 2004a).

3.6.1 Utrecht Work Engagement Scale [UWES]

The UWES was developed and is aimed at measuring work engagement. The long version of this instrument consists of 17 items, including the three sub-scales of employee engagement, namely vigour, dedication and absorption.

There are six items on vigour, five on dedication and six on absorption, making up the 17 items (Schaufeli *et al.*, 2002). Vigour is measured by item numbers 1, 4, 8, 12, 15 and 17, dedication is measured by items 2, 5, 7, 10 and 13, and absorption is measured by the balance of items 3, 6, 9, 11, 14 and 16 (Schaufeli & Bakker, 2004a:48). These 17 items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (always). Table 3-2 depicts the 7-point scale in detail.

Table 3-2: Utrecht Work Engagement Scale [UWES]

0	1	2	3	4	5	6
Never	Almost never or a few times a year or less	Rarely or once a month or less	Sometimes or a few times per month	Often or once a week	Very often or a few times per week	Always or every day

Adapted from Schaufeli and Bakker (2004a:48)

The instructions to the respondents are to read each statement carefully and to decide whether they ever feel this way about their job. If they have never felt this way, they should choose “0”. If, however, they have had this feeling, they should indicate how often they have this feeling by choosing the corresponding number that best describes how frequently they feel that way.

The most characteristic **vigour** item, according to Schaufeli *et al.* (2006, 707), is “At my work, I feel bursting with energy”. Scoring high on this item indicates high levels of working energy and endurance, whereas low scores indicate apathy and no stamina.

According to Schaufeli, Bakker and Salanova (2006, 707), the most characteristic **dedication** item is “I am enthusiastic about my job”. A high score on this item indicates respondents who strongly identify with their work, experience it as meaningful, inspiring and challenging and most often they are very proud of their work. A low score, on the other hand, indicates a feeling of non-enthusiasm and respondents not taking pride in their work.

Schaufeli *et al.* (2006, 708) list the most characteristic **absorption** item as “I am immersed in my work”. Respondents who have a high score here point to a feeling of being captivated by their work and find it difficult to disengage from it because they find it riveting, whereas respondents with a low score point to not feeling gripped by their work and not having a problem in separating from it.

The mean scale scores of each of the three UWES sub-scales are calculated by adding the scores on the specific scale, namely vigour, dedication and absorption and dividing it by the number of items in that specific sub-scale. The same is done for the total mean scale; therefore, UWES yields three sub-scale scores and a total score ranging between 0 and 6 (Schaufeli & Bakker, 2004a:33).

3.6.2 Reliability of UWES

Schaufeli, Bakker and Salanova (2006:703) noted that from numerous previous research the reliability and internal consistency of this instrument were found to be adequate as the Cronbach alpha coefficients ranged from .80 to .90, exceeding the traditional guideline value of .70 as prescribed by Nunnally and Bernstein (1994:10) and even the more stringent value of .80 that is now considered a generally accepted standard (Field, 2009:821).

3.6.3 Validity of UWES

The standardised instrument was validated for use in South Africa and is available in English and Afrikaans (Schaufeli & Bakker, 2004a). Although the UWES-17 scale is widely used in South Africa, Goliath-Yarde and Roodt (2011:2) reported that only two

studies in South Africa reported validation results. According to Goliath-Yarde and Roodt (2011:4), these results were from Storm and Rothmann in 2003 as well as Barkhuizen and Rothman in 2006. Although both studies found the UWES-17 scale to be acceptable for use in South Africa, problematic items were revealed within the instrument for use within the South African context.

3.6.4 Permission

According to the test manual for the Utrecht Work Engagement Scale by Schaufeli and Bakker (2004a:48), the Utrecht Work Engagement Scale is free to use in non-commercial scientific research, as intended here.

3.7 Measuring instrument for biographical information

A biographical questionnaire was developed to gather information on the demographical characteristics of the respondents. This biographical questionnaire gathers information on gender, race, home language, age, highest qualification, peromnes level, name of current department or section at the institution, numbers of years employed at this specific section and total number of years employed at the institution, including institutions before the so-called merging of institutions of higher education. This information was deemed important as potential sources of variation in responses to the measured dimensions.

3.8 Procedures followed for data gathering

3.8.1 Electronic survey

The BTI and UWES measuring instruments were combined together with a biographical questionnaire in a single bilingual questionnaire, as displayed in Appendix D. This survey will be conducted electronically using a web-based application named *FluidSurveys*. Bilingual instructions will be supplied to respondents.

The UWES measuring instrument is available in English and Afrikaans. Both versions were used as published. The BTI measuring instrument, however, is only available in English. It was translated and the text editing of the content of the questionnaire was performed by the NWU Language Services. A successful trial run was done with three support staff colleagues, each on different peromnes levels (9, 11 and 13), to test

whether they understood the Afrikaans version of the translated questions the same way as it was meant to be in the original English version.

There are two reasons behind the Afrikaans and English in both the instructions and the survey. The first is the fact that the language medium on the specific campus is Afrikaans, and secondly, if the survey question is not clearly understood in one language, the other language could be consulted as most respondents are bilingual.

FluidSurveys is a do-it-yourself online survey tool allowing the creation of own surveys, the distribution of surveys using web links, the collection of data from respondents, and the analysis of the results with powerful reporting and export features to the statistical programs for further statistical analysis.

3.8.2 Ethical considerations

Ethical considerations to take into consideration, according to *Welman et al.* (2010:201), are firstly that the necessary consent for the research needs to be attained from the institution where the research is to be undertaken. Secondly, the respondents at the institution should be assured of their right to privacy, which entails that their identities will remain anonymous. Thirdly, the respondents should also be assured that they would be protected against any physical or emotional harm. Lastly, the researcher should guard against disrespectful treatment or improper influence of respondents.

Research ethics are also taken very seriously at institutions of higher education. Strict guidelines are published to be adhered to by post-graduate students, who have to provide proof to ensure confidential storage and usage of collected data, especially where students or staff members are used in their research.

Respondents were also made aware thereof that every person in a leadership position may be evaluated through this survey. All staff members taking part were assured that no respondent would be singled out and that no specifics of the survey would be made public. The leaders being evaluated by this study were also assured to not fear the outcome from this research as no one leader will be singled out or evaluated nor will any specifics pertaining to any leader be made public.

The respondents were assured of their right to privacy, which entails that their identity will remain anonymous and that they would be protected against any physical or

emotional harm. Participation in the survey is out of free will and all data collected would be handled confidentially and shall only be used for statistical purposes.

The survey will only measure the broader follower-leader relationship on different levels and the effect thereof on work engagement. Each respondent would therefore only evaluate his/her direct supervisor and not a supervisor at the top of his/her support unit's organisational structure. The leaders being evaluated by this study should also not fear the outcome from this research as no one leader is singled out or evaluated nor will any specifics pertaining to any leader be made public.

3.8.3 Preliminary arrangements

An email requesting five hundred support staff members at the institution to participate in the electronic survey (http://fluidsurveys.com/s/Greg_Roberts_2013_MBA_Vraelys/) was sent out on 31 July 2013. Attached to the email was, firstly, a letter of approval for the research by the Rector of the specific campus, and secondly, bilingual instructions to the respondents.

It was highlighted that the survey only measures the broader follower-leader relationship on different levels within the institution and the effect thereof on work engagement. Each respondent would therefore only evaluate his/her direct supervisor and not the person at the top of his/her support unit's organisational structure.

Respondents were requested to complete the survey within 14 days, and were advised that the survey would only take 15 minutes to complete. The 15 minutes were determined by timing three employees before sending out the survey. On 8 August 2013, a follow-up email, listed as Appendix H, was sent out to remind staff members to complete the electronic survey, five days before the cut-off date.

3.8.4 Data capturing

Respondents completed their questionnaires by choosing the available options on the FluidSurveys web-based electronic survey. Whenever a question was not answered, the program flagged the question and forced the respondent to choose an option. Only on completion of all questions, would the survey allow continuing to the next page.

On completion of all questions, the respondents submitted their surveys electronically, which were then captured on the web. All captured data were then downloaded from the FluidSurveys webpage and supplied to the North-West University's Statistical Consultation Services, which analysed the data.

3.9 Statistical analysis

The electronic data downloaded from the cross-sectional survey's completed questionnaires as received from FluidSurveys were analysed with the IBM 2013 SPSS Statistics Version 21 program by the North-West University's Statistical Consultation Services.

Frequencies, means and standard deviations on the sub-dimensions of leadership trust and work engagement were calculated using descriptive statistics. The relationships between the latent variables are assessed using the Pearson correlation coefficients.

According to Krejcie and Morgan (1970:1), a sample size must be representative of a given population and the formula for determining the required sample size is:

$$s = (X^2 NP (1 - P)) / (d^2 (N - 1) + X^2 P (1 - P))$$

where

s = required sample size

X² = the table value of chi-square for 1 degree of freedom at the
desired confidence level

N = the population size

P = the population proportion

d = the degree of accuracy expressed as a proportion (.05)

Krejcie and Morgan (1970:2) do, however, supply a table where the sample size can be read from the table without calculations. In the case of this research, where 500 respondents represent the population size, a sample size of 217 is needed.

The arithmetic mean, referred to as the **mean** and denoted by \bar{X} , is the most common measure of central tendency. According to Levine, Stephan, Krehbiel and Berenson (2011:114), \bar{X} is calculated by dividing the sum of all the values in the sample by the sample size. The formula is:

$$\bar{X} = (X_1 + X_2 + \dots + X_n) / n$$

where

n = the sample size (excluding nonresponses)

\bar{X} = sample mean

X_1 = sample value 1

X_2 = sample value 2

The **standard deviation** indicates how a set of data distributed around the mean. The greater the concentration around the mean, the smaller the standard deviation is. According to Levine *et al.* (2011:121), the standard deviation, denoted by S , is calculated by the square root of the sum of the squared differences around the mean, and divided by the sample size less one. The formula is:

$$S = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

where

n = the sample size

S = standard deviation

\bar{x} = sample mean

x = sample values

In most datasets, a large quantity of the data points tend to concentrate around the mean, producing a bell-shaped distribution. The **empirical rule**, according to Levine *et al.* (2011:139), states that approximately 68% of all data points would be within a

distance of ± 1 standard deviation of the mean, approximately 95% of all data points would be within a distance of ± 2 standard deviations of the mean, and approximately 99.7% of all data points would be within a distance of ± 3 standard deviations of the mean, given that the data are normally distributed.

When data are symmetrically distributed around the mean, irrespective of the deviation from the mean, it is known as a normal distribution (Levine *et al.*, 2011:222). A normal distribution is where “values are equally likely to plot either above or below the mean and grouping takes place at values that are close to the mean and then tails off symmetrically away from the mean, also known as a "Gaussian distribution" or "bell curve"” (Investopedia, 2013a). The further the deviations are from the mean, the wider the bell shape becomes, and the nearer the deviations, the narrower the bell shape becomes. Values outside a distance of ± 3 standard deviations of the mean are almost always considered **outliers** (Levine *et al.*, 2011:139).

The Kaiser-Meyer-Olkin measure [KMO] is a measure of sample size adequacy. The KMO values fluctuate between 0 and 1, where values above 0.7 suggest sample factorability. Values above 0.7 are considered as a minimum value for acceptable reliability, while values above 0.9 are considered brilliant (Pallant, 2010:100).

The Bartlett’s test of sphericity tests whether the variables in the correlation matrix are an identity matrix that points to an unsuitable factoring model. The Bartlett’s test of sphericity is significant if the associated probability is less than 0.05, meaning that the correlation matrix is not an identity matrix, the variables are related and therefore suitable for structure detection (IBM, 2011).

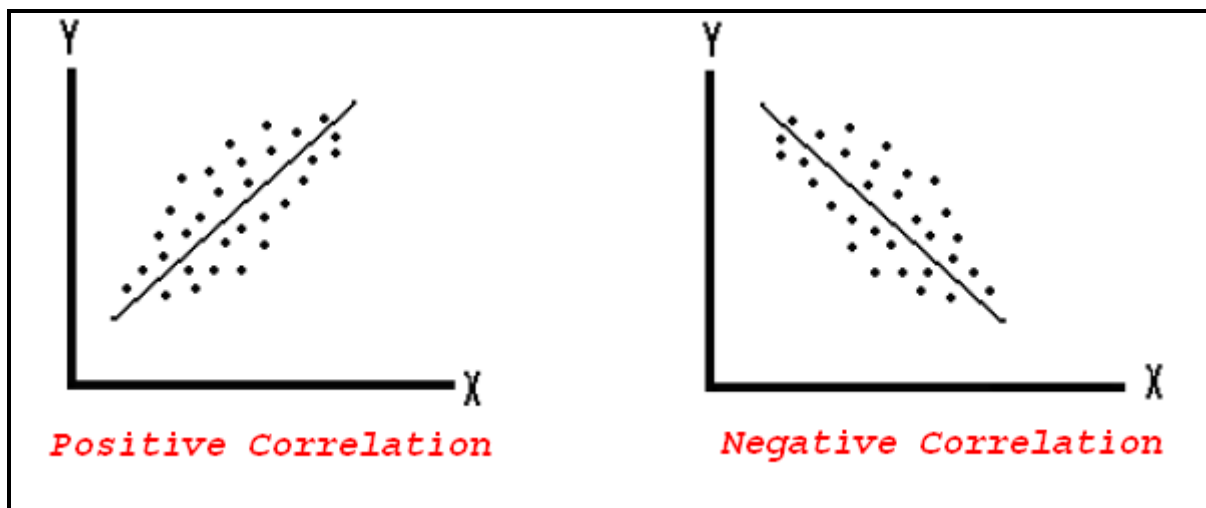
The determinant test for multi-collinearity is an indication that multi-collinearity is not severe if the value is above 0.00001.

According to Streiner (2003:101), Cronbach’s alpha coefficient, as indicated by α , is perhaps the most widely used measure of reliability of a scale. A Cronbach’s alpha coefficient measures how well each individual item in a scale correlates with the sum of the remaining items. A high value of α is a prerequisite for internal consistency, although it does not guarantee it. The α -value indicates internal consistency among individual items in a scale and a value above 0.60 is acceptable, above 0.70 is good and above 0.80 is very good. Streiner (2003:103) does, however, warn against a value

of over 0.90, as it may indicate unnecessary duplication of content across individual items within the scale pointing to redundancy among items in the questionnaire.

Generalisations about the larger population can be made with p-values and it is a measure of statistical significance. If the p-value is equal to or smaller than 0.05, then the effect is statistically significant.

Various effect sizes are used to measure practical significance and we employed two measures, namely the Pearson correlation and the Cohen's d-value. The Pearson correlation or r-value is used to assess the practical significance of correlations between variables. The r-value, also an effect size, measures the correlation and the mathematical sign indicates that either a positive or negative correlation exists, as depicted in Figure 3-1.



Source: Education Portal (2013:2)

Figure 3-1: Depicting positive and negative correlation

If the r-value, not taking into account whether it is positive or negative, is equal to or larger than 0.3, then there is a practical, visible correlation, but if the r-value is equal to or larger than 0.5, then there is a practically significant correlation

Cohen's d-value is used to assess the practical significance of differences between group means. If the d-value is equal to or larger than 0.5, then there is a practical, visible difference, but if the r-value is equal to or larger than 0.8, then there is a practically significant difference.

The average inter-item correlation uses all of the items that measure the same construct. The correlation between each pair of items is calculated and the average inter-item correlation is the average or mean of all these correlations. Field (2009:678) indicates that inter-item correlations should preferably be above 0.3 and that a low inter-item correlation indicates that an item does not fit well with the general tendency of the group of items. Clark and Watson (1995:316) suggest using a range between 0.15 and 0.55 as an ideal mean inter-item correlation benchmark.

Predictive modelling was attempted using linear regression, given the availability of sufficient data, which allowed for recommendations regarding the relationship between leadership trust and work engagement.

3.10 Research hypothesis

The following research hypotheses are formulated for the purpose of this study:

H1: The Behavioural Trust Inventory is a reliable measurement instrument for leadership trust

H2: The Utrecht Work Engagement Scale is a reliable measurement instrument for work engagement

H3: There is a significant positive relationship between reliance-based trust and vigour enabling reliance-based trust to be a predictor of vigour

H4: There is a significant positive relationship between disclosure-based trust and vigour enabling disclosure-based trust to be a predictor of vigour

H5: There is a significant positive relationship between reliance-based trust and dedication enabling reliance-based trust to be a predictor of dedication

H6: There's a significant positive relationship between disclosure-based trust and dedication enabling disclosure-based trust to be a predictor of dedication

H7: There is a significant positive relationship between reliance-based trust and absorption enabling reliance-based trust to be a predictor of absorption

H8: There's a significant positive relationship between disclosure-based trust and absorption enabling disclosure-based trust to be a predictor of absorption

H9: A significant positive mutual reinforcing relationship exist between leadership trust and employee engagement

3.11 Chapter summary

This chapter dealt with the approach and design of the empirical survey, the measuring instruments and the relevance thereof, the participants used for the survey, the ethical considerations taken into account as well as the procedures followed in the data collection process.

In the next chapter, conclusions will be made, limitations will be noted and recommendations will be made with regard to the assessment of the relationship between leadership trust and work engagement and the hypotheses formulated.

CHAPTER 4: EMPIRICAL RESULTS AND FINDINGS

4.1 Introduction

In this chapter, the results of the empirical research will be presented. The results were obtained from the North-West University's Statistical Consultation Services where the data were analysed with the IBM 2013 SPSS Statistics Version 21 program.

Results will be firstly be provided on the biographical profile of the respondents, where after descriptive statistics on both the concepts of leadership trust and work engagement shall follow.

The possibility of relationships between leadership trust and work engagement will be assessed with correlation coefficients.

Linear regression analysis and multiple regression analysis were used in an attempt to predict work engagement from leadership trust.

4.2 Biographical profile

The sample size achieved for the purpose of this research was 244 respondents, which is 12.45% above the required minimum sample size of 217 respondents and is therefore regarded as sufficient to justify further analysis thereon. Table 4-1 summarises the frequencies of the biographical information.

In analysing the biographical data, the following was found pertaining to the 500 respondents who were requested to complete the electronic questionnaires.

A response rate of 48.8% was achieved from 244 respondents who completed the questionnaire. According to Marx (2009:31), this response rate of 48.8% is above average within a South African context where research by scholars' response rates average from 25% to 38%, but similar international research even has response rates of up to 61%, although South African response rates are known to be lower than international rates.

Table 4-1 that follows summarises the biographical information, which will be described in detail on the following pages.

Table 4-1: Frequency table: Biographical profile

Item	Category	Response	Frequency	Percentage
Gender	Female	1	177	72.5%
	Male	2	67	27.5%
Race	Black	1	10	4.1%
	Coloured	2	14	5.7%
	Indian	3	2	0.8%
	White	4	218	89.3%
	Other	5	0	0.0%
Home language	Afrikaans	1	220	90.2%
	English	2	13	5.3%
	Sesotho	3	0	0.0%
	isiZulu	4	1	0.4%
	Setswana	5	9	3.7%
	German	6	1	0.4%
Age	20-29	1	38	15.6%
	30-39	2	69	28.3%
	40-49	3	55	22.5%
	50-59	4	59	24.2%
	≥ 60	5	23	9.4%
Highest qualification	≤ Grade 12	1	1	0.4%
	Grade 12	2	67	27.7%
	Diploma	3	51	21.1%
	Bachelor's degree	4	43	17.8%
	Honours degree	5	46	19.0%
	Master's degree	6	26	10.7%
	Doctoral degree	7	8	3.3%
	Non-responses		2	
Peromnes	2	2	3	1.4%
	3	3	3	1.4%
	4	4	1	0.5%
	5	5	5	2.3%
	6	6	9	4.2%
	7	7	21	9.8%
	8	8	17	7.9%
	9	9	22	10.3%
	10	10	27	12.6%
	11	11	32	15.0%
	12	12	34	15.9%
	13	13	40	18.7%
	Non-responses		30	
	Employment at department	0 – 3	1	87
4 – 10		2	105	43.9%
11 – 15		3	23	9.6%
16 – 20		4	5	2.1%
20+		5	19	7.9%
Non-responses			5	
Employment at institution	0 – 3	1	70	29.4%
	4 – 10	2	105	44.1%
	11 – 15	3	28	11.8%
	16 – 20	4	13	5.5%
	20+	5	22	9.2%
	Non-responses		6	

The gender dispersion was 177 females (72.5%) and 67 males (27.5%), making the females the majority of respondents.

Looking at race, 89.3% of the respondents are white, 5.7% coloured, 4.1% black and only 0.8% Indian, making the white respondents the overwhelming majority.

On language, 90.2% of respondents chose Afrikaans as their home language, 5.3% English and 3.7% Setswana. The remaining 0.8% is made up of two respondents, who respectively chose isiZulu and German as their home language. The Afrikaans respondents were therefore the overwhelming majority.

The sample described does not represent a random sample, but it is representative of the specific campus of the targeted institution, namely that a large proportion of respondents were white Afrikaans females.

Regarding age, 69 respondents indicated that they were between the ages of 30 and 39, making them the largest group at 28.3% of respondents. The second largest group were between the ages of 50 and 59, where 24.2% of the respondents indicated their age. 22.5% were between the ages of 40 and 49, 15.6% were between the ages of 20 and 29, and 9.4 % were over 60, making the over 60 age group the minority.

On qualifications, 27.7% of respondents specified that they had grade 12 as their highest qualification, making them the majority group. 21.1% specified they had diplomas, 17.8% showed they had bachelor's degrees and 19.0% indicated they had honours degrees. 10.7% pointed out they had master's degrees and only 3.3% indicated their highest qualification as a doctoral degree.

On qualifications, one respondent (0.4%) pointed out that his/her highest qualification was lower than grade 12, which in itself is a problem as the minimum qualification for peromnes level 13 is a grade 12.

The spread on peromnes levels indicated that the majority of respondents at 18.7% were on level 13. The next highest levels were levels 12, 11 and, 10 at 15.9%, 15.0% and 12.6%, respectively. 10.3% of respondents indicated their peromnes levels at level 9, 9.8% on level 7 with 7.9% at level 8. The lower 7 levels made up 90.2% of all respondents. At the minority side of the group, 4.2% and 2.3% respectively showed

levels 6 and 5 as their peromnes levels and 0.5% at level 4. Only 1.4% each indicated levels 2 and 3, making the level 4 peromnes the minority group.

On employment within their current department, 43.0% of respondents indicated that they had already worked four to 10 years at their current department, and 35.7% indicated that had worked from 0 to three years at the department. Another 9.4% indicated they had worked for a period of 11 to 15 years at their current department.

These three groups made up 90.0% of all respondents. Only 7.8% had worked for 20 years or longer, but the minority of only 2.0% indicated they had worked between 16 and 20 years at their current department.

On employment within the institution, 43.0% again indicated that they had worked for four to 10 years and again another 28.7% indicated that they had worked from 0 to three years at the department. Furthermore, another 11.5% indicated they had worked for a period of 11 to 15 years at their current department.

These three groups made up 85.3% of all respondents. Only 9.0% had worked for 20 years and longer, but the minority of only 5.3% indicated they had worked between 16 and 20 years at their current department.

From the above, the dominant demographic properties were indicated as ***white Afrikaans women***.

4.3 Descriptive statistics

Means and standard deviations were obtained from data analysis to describe the data.

4.3.1 Leadership trust

The results from the empirical survey on leadership trust, using the Behavioural Trust Inventory [BTI], are presented in Table 4-2 below.

Items A1 to A5 measure the sub-dimension of reliance-based trust and items A6 to A10 the sub-dimension of disclosure-based trust.

Table 4-2: Results of the Behavioural Trust Inventory [BTI]

Item	Possible answers	Frequency						Total	Missing	Mean (\bar{X})	Standard deviation (S)	
		Not at all (1)	Almost never (2)	Rarely (3)	Sometimes (4)	Often (5)	Very often (6)					Completely (7)
A1	Do you rely on your leader's task-related skills and abilities?	13	9	20	21	24	45	83	215	29	5.330	1.8640
A2	Do you depend on your leader to handle an important issue on your behalf?	14	12	21	24	24	51	69	215	29	5.144	1.8877
A3	Do you rely on your leader to represent your work accurately to others?	15	18	14	17	37	47	67	215	29	5.102	1.9186
A4	Do you depend on your leader to back you up in difficult situations?	12	14	18	25	18	36	92	215	29	5.321	1.9297
A5	Do you rely on your leader's work-related judgements?	19	11	18	23	31	55	58	215	29	5.014	1.9152
A6	Do you share your personal feelings with your leader?	32	18	33	24	29	42	37	215	29	4.274	2.0585
A7	Do you discuss work-related problems or difficulties with your leader that could potentially be used to disadvantage you?	30	16	27	26	37	45	34	215	29	4.372	1.9979
A8	Do you confide in your leader about personal issues that are affecting your work?	28	18	29	25	28	47	40	215	29	4.433	2.0379
A9	Do you discuss how you honestly feel about your work, even negative feelings and frustration?	15	18	33	31	24	42	52	215	29	4.698	1.9278
A10	Do you share your personal beliefs with your leader?	17	19	29	30	31	47	42	215	29	4.619	1.9002

Table 4-2 indicates that the means of the reliance-based trust items are all above 5 in the “Often” range. The means of the disclosure-based trust items are all below 5. Furthermore, the means of all ten trust items are above 4 in the “Sometimes” range, being the midpoint of the scale, leading towards the positive side of the scale at 7 or “Completely”.

Item A1 has the largest mean at 5.330 and item A6 has the smallest mean at 4.274. All ten items in the BTI measured relatively large standard deviations with item A6 the largest at 2.0585 and item A1 the smallest at 1.8640, but none could be considered outliers. The large standard deviations were noted but not considered as meaningful.

This implies that the distribution around the mean is not concentrated, resulting in a wider bell-shaped distribution. In other words, the respondents have different perceptions of trust in their direct supervisors.

4.3.2 Work engagement

Results from the work engagement empirical survey are presented in Table 4-3 below.

Table 4-3: Results of the Utrecht Work Engagement Scale [UWES]

Item	Possible answers	Frequency						Total	Missing	Mean (\bar{x})	Standard deviation (S)	
		Never (0)	Almost never (1)	Rarely (2)	Sometimes (3)	Often (4)	Very often (5)					Always (6)
B1	At my work, I feel bursting with energy	0	7	8	35	34	97	42	223	21	4.489	1.2407
B2	I find the work that I do full of meaning and purpose	0	6	7	21	34	54	101	223	21	4.910	1.3018
B3	Time flies when I am working	2	0	6	12	27	66	110	223	21	5.139	1.1324
B4	At my job, I feel strong and vigorous	0	4	7	29	44	90	47	221	23	4.584	1.1594
B5	I am enthusiastic about my job	1	5	9	24	34	64	84	221	23	4.774	1.3292
B6	When I am working, I forget everything else around me	5	3	14	24	52	81	41	220	24	4.373	1.3539
B7	My job inspires me	5	6	12	34	42	71	51	221	23	4.348	1.4525
B8	When I get up in the morning, I feel like going to work	5	13	8	30	45	68	51	220	24	4.295	1.5287
B9	I feel happy when I am working intensely	0	4	7	29	30	75	76	221	23	4.778	1.2398
B10	I am proud of the work that I do	0	2	4	6	18	61	130	221	23	5.362	0.9794
B11	I am immersed in my work	0	3	6	27	37	92	55	220	24	4.700	1.1352
B12	I can continue working for very long periods at a time	1	5	4	17	38	86	69	220	24	4.818	1.1873
B13	To me, my job is challenging	5	9	12	27	46	55	65	219	25	4.397	1.5392
B14	I get carried away when I am working	5	13	16	49	44	65	27	219	25	3.904	1.4854
B15	At my job, I am very resilient, mentally	2	1	7	17	48	85	59	219	25	4.735	1.1507
B16	It is difficult to detach myself from my job	16	13	34	40	44	46	26	219	25	3.484	1.7143
B17	At my work, I always persevere, even when things do not go well	0	2	2	14	24	80	97	219	25	5.142	1.0105

The Utrecht Work Engagement Scale [UWES] was used where items B1, B4, B8, B12, B15 and B17 measure the sub-dimension of vigour, items B2, B5, B7, B10, and B13 measure the sub-dimension of dedication, while items B3, B6, B9, B11, B14 and B16 measure the sub-dimension of absorption.

Table 4-3 indicates that the means of all but two of the work engagement items are above 4 in the “Often” range, while the means of the other two items are below 4 in the “Sometimes” range.

All the means are above 3, being the midpoint of the scale, leading towards the positive side of the scale at 6 or “Always”. Item B10 has the largest mean at 5.362 and item B16 has the smallest mean at 3.484.

Sixteen out of the seventeen items in the UWES measured standard deviations above 1.0000, with item B16 being the largest at 1.7143. Item B10 measured the smallest and is the only item below 1.0000 at 0.9794. None of the items could be considered outliers.

This means that the distribution around the mean is more concentrated than the BTI items, resulting in a narrower bell-shaped distribution, implying that perceptions differ less on work engagement than on leadership trust.

4.4 Exploratory factor analysis

According to Garson (2011:1), factor analysis is used to uncover latent dimensions on a set of variables, but there are several different types of factors. Latent variables may embody undetected constructs, which are referred to as factors and therefore factor analysis was done to investigate construct validity.

The dimensionality of both the BTI and UWES measurement instruments was reduced using exploratory factor analysis, resulting in the least number of interpretable factors needed to explain the correlations among the individual items. The method used was the principal axis factoring with direct Oblimin rotation.

4.4.1 Validity of the Behavioural Trust Inventory [BTI]

The Behavioural Trust Inventory [BTI] has not previously been validated for use in South Africa and therefore limited information on configuration and applicability is

available. This was the reason for choosing exploratory factor analysis to investigate construct equivalence rather than confirmatory factor analysis.

Table 4-4 below condenses the items in the BTI making up the two sub-dimension of leadership trust as well as the mean and standard deviation of each of these sub-dimensions. From the table, it can be seen that the means of the two sub-dimensions are relatively close to each other, which implies that there is not a huge difference on average in how the two sub-dimensions measured. The means of both sub-dimensions tend towards the positive side of the scale, meaning that the trust in leadership is relatively high – a positive result for the institution itself.

The relatively large standard deviations in Table 4-4 show that the respondents differ significantly in their thoughts on the questions, which implies that not all respondents have the same perceptions of trust in their leaders.

Table 4-4: BTI sub-dimensions means and standard deviations

Dimension	Items	Mean (\bar{x})	Standard deviation (S)
Reliance-based trust	A1 to A5	5.18	1.903
Disclosure-based trust	A6 to A10	4.48	1.942

The KMO indicated a value of 0.917, which is above the value 0.9 considered to be very good. The Bartlett’s test of sphericity was significant as the associated probability was less than the required 0.05, thereby indicating that correlations between items were sufficiently large to perform principal axis factor analysis.

The determinant test for multi-collinearity in this case equals .000009704, which implies that multi-collinearity is definitely present. It is derived from the theory on the BTI measurement that the items are, however, not too similar and therefore the high correlation among items may be a sample phenomenon.

Therefore, even though multi-collinearity is present, it is not as a result of manipulation of items in the measuring instrument.

In Table 4-5, an exploratory principal axis factor analysis was used as extraction method using the Oblimin with Kaiser Normalisation rotation method.

Eigenvalues greater than 1.0 were used as criterion for factor selection (Field, 2009:660).

Table 4-5: BTI total variance explained

Factor	Initial Eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
1	6.919	69.186	69.186	6.729	67.285	67.285	6.449
2	1.463	14.634	83.819	1.190	11.895	79.181	3.469
3	.430	4.298	88.118				
4	.296	2.960	91.078				
5	.215	2.150	93.227				
6	.188	1.884	95.112				
7	.166	1.662	96.774				
8	.144	1.444	98.218				
9	.103	1.030	99.248				
10	.075	.752	100.000				

This table indicates that the two factors with Eigenvalues above 1.0 explained 79.181% of the variance. This compares very well with the findings of Gillespie (2012:184), as it confirms her claimed two-factor structure. Another positive is that the result for the total sample, measured clearly within a South African context, compares well with Gillespie’s original findings within an Australian context.

In Table 4-6, the Pattern Matrix is shown again using principal axis factor analysis as extraction method and again the Oblimin with Kaiser Normalisation rotation method was used, where rotation converged in five iterations.

Table 4-6: BTI pattern matrix

	Factor	
	1	2
BTIQ1	.949	
BTIQ2	1.012	
BTIQ3	.933	
BTIQ4	.860	
BTIQ5	.927	
BTIQ6	.600	.433
BTIQ7	.661	.342
BTIQ8	.623	.413
BTIQ9		.828
BTIQ10		.802

Note: Only loadings above 0.3 are displayed

From Table 4-6, it is clear that items BTIQ1 to BTIQ5 did all load onto the first factor, which confirms that these items do measure the same underlying construct, in line with the findings of Gillespie (2012:184).

In anticipation of the theory, items BTIQ6 to BTIQ10 should purely load onto the second factor, but this was only the case with items BTIQ9 to BTIQ10. Contradictory to the theory, Table 4-6 indicates that items BTIQ6, BTIQ7 and BTIQ8 did load onto both factors and these items even loaded higher onto the first factor than the second factor.

According to the only other known study within South Africa using the same BTI Inventory, currently still in progress and therefore not referenced, the two factors did load purely and without double loadings onto both factors exactly in line with Gillespie's original findings. This suggests that my findings, which differ from both Gillespie and the second South African study, may have something to do with the group and not the measuring instrument.

Items BTIQ6 to BTIQ8 did, however, still load sufficiently high onto factor 2, with values above 0.3 and it was therefore decided to stick to the theory with items BTIQ1 to BTIQ5 loading onto the first factor and items BTIQ6 to BTIQ10 loading onto the second.

In order to ensure that this was the right decision, confirmatory factor analysis was done; firstly on the **reliance-based trust** items BTIQ1 to BTIQ5, and secondly, on the **disclosure-based trust** items BTIQ6 to BTIQ10. The results of this confirmatory factor analysis are as follows.

Firstly, the KMO on the **reliance-based trust** items BTIQ1 to BTIQ5 indicated a value of 0.886, which is just beneath the value of 0.9 considered to be very good. The Bartlett's test of sphericity was significant as the associated probability was less than the required 0.05, thereby indicating that correlations between items were sufficiently large to perform principal axis factor analysis.

The multi-collinearity determinant equals 0.002, which implies that the multi-collinearity is not severe and greater than 0.00001.

Table 4-7 indicates that one factor with Eigenvalues above 1.0 explained 84.592% of the variance.

Table 4-7: BTI Reliance-based trust total variance explained

Factor	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.382	87.634	87.634	4.230	84.592	84.592
2	.228	4.556	92.190			
3	.193	3.869	96.059			
4	.118	2.369	98.428			
5	.079	1.572	100.000			

Secondly, the KMO on the **BTI disclosure-based trust** items BTIQ6 to BTIQ10 indicated a value of 0.811, which is just beneath the value of 0.9 considered to be very good. The Bartlett’s test of sphericity was significant as the associated probability was less than the required 0.05, thereby indicating that correlations between items were sufficiently large to perform principal axis factor analysis. The multi-collinearity determinant equals 0.021, which implies that the multi-collinearity is not severe and greater than 0.00001.

In Table 4-8, an exploratory principal axis factor analysis was used as extraction method using the Oblimin with Kaiser Normalisation rotation method. This table indicates that one factor with Eigenvalues above 1.0 explained 65.415% of the variance.

Table 4-8: BTI disclosure-based trust total variance explained

Factor	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.581	71.627	71.627	3.271	65.415	65.415
2	.819	16.379	88.006			
3	.280	5.604	93.609			
4	.183	3.659	97.269			
5	.137	2.731	100.000			

The confirmatory factor analysis confirms the theory that items BTIQ1 to BTIQ5 load correct for factor 1 and items BTIQ6 to BTIQ10 load correct for factor 2.

4.4.2 Validity of the Utrecht Work Engagement Scale [UWES]

The Utrecht Work Engagement Scale [UWES] has twice previously been validated for use in South Africa (Goliath-Yarde & Roodt, 2011:2), and therefore information on configuration and applicability is available (Schaufeli *et al.*, 2006:701). For this reason, exploratory factor analysis was used to investigate constructs rather than confirmatory factor analysis. Exploratory factor analysis is also preferred, as it allows for the identification of sample nuances.

Table 4-9 displays the item numbers in the UWES making up the three sub-dimensions of work engagement as well as the mean and standard deviation of each of these sub-dimensions.

Table 4-9: UWES sub-dimensions means and standard deviations

Dimension	Items	Mean (\bar{x})	Standard deviation (S)
Vigour	B1, B4, B8, B12, B15 & B17	4.68	1.213
Dedication	B2, B5, B7, B10 & B13	4.76	1.320
Absorption	B3, B6, B9, B11, B14 & B16	4.40	1.344

From Table 4-9, it is noticeable that the means of the three sub-dimensions are very close to each other, implying that the three sub-dimensions were measured on average the same by the relevant respondents.

The standard deviations measuring above 1.2 on all three work engagement sub-dimensions in Table 4-9 imply that the respondents did differ in their thinking on the questionnaires, which implies that not all respondents have the same opinion on work engagement.

The KMO indicated a value of 0.939, which is above the value of 0.9 considered to be very good. The Bartlett's test of sphericity was significant as the associated probability was less than the required 0.05, thereby indicating that correlations between items were sufficiently large to perform principal axis factor analysis.

The determinant equals 0.000001839, which implies that the multi-collinearity is present.

Schaufeli and Bakker (2004a:17) do, however, warn that the three UWES scales are strongly correlated and should therefore “not be entered simultaneously in multivariate regression analyses in order to avoid problems with multi-collinearity”.

In Table 4-10, an exploratory principal axis factor analysis was used as extraction method using the Oblimin with Kaiser Normalisation rotation method.

Table 4-10: UWES total variance explained

Factor	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.651	56.770	56.770	9.269	54.522	54.522
2	1.148	6.750	63.520	.750	4.414	58.936
3	.910	5.354	68.874			
4	.710	4.176	73.050			
5	.688	4.048	77.097			
6	.608	3.576	80.674			
7	.524	3.082	83.755			
8	.491	2.887	86.642			
9	.414	2.434	89.076			
10	.346	2.033	91.109			
11	.311	1.832	92.940			
12	.270	1.590	94.530			
13	.242	1.423	95.954			
14	.217	1.275	97.229			
15	.174	1.024	98.253			
16	.166	.977	99.230			
17	.131	.770	100.000			

Contrary to the fact that the UWES scale has been developed to include the three constituting dimensions of work engagement, and previous research by Schaufeli *et al.* (2006:702) where exploratory factor analysis using principle axis factoring revealed three factors, these research results indicated two factors with Eigenvalues above 1.0.

Furthermore, the first factor already explains a variance of 54.52%, which in itself is sufficient to only go with one factor. The second factor only adds a marginal 4.41%.

The same single factor results were also found in another study where the UWES scale was used. There, the first factor Eigenvalues accounted for 64% of the variance (Marescaux, De Winne & Sels, 2010:19).

This led to a further investigation into the UWES scale, where Schaufeli *et al.* (2004a:17) also concluded in their validation of the UWES scale that work engagement, as assessed by the UWES scale, may be considered either a one-dimensional or a three-dimensional construct. The three dimensions' high correlations and the high Cronbach values on the total scale support a one-dimensional model, but the superior fit of the three-dimensional model supports the existence of three subscales, at least for the UWES-15 and UWES-17 scales.

In light of these research findings, backed by the findings from Marescaux *et al.* (2010:19) and Schaufeli *et al.* (2004a:17), the factor analysis will be redone with only one factor as displayed in Table 4-11. This factor analysis will therefore technically become the confirmatory factor analysis.

Table 4-11 indicates the results of the confirmatory factor analysis. The first Eigenvalue alone already explains sufficient variation at 54.245%.

Table 4-11: Single factor UWES total variance explained

Factor	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.651	56.770	56.770	9.222	54.245	54.245
2	1.148	6.750	63.520			
3	.910	5.354	68.874			
4	.710	4.176	73.050			
5	.688	4.048	77.097			
6	.608	3.576	80.674			
7	.524	3.082	83.755			
8	.491	2.887	86.642			
9	.414	2.434	89.076			
10	.346	2.033	91.109			
11	.311	1.832	92.940			
12	.270	1.590	94.530			
13	.242	1.423	95.954			
14	.217	1.275	97.229			
15	.174	1.024	98.253			
16	.166	.977	99.230			
17	.131	.770	100.000			

This confirmatory factor analysis (principal axis factoring) therefore confirms the one factor for the UWES scale and that all 17 items can be grouped into a single work engagement scale for data analysis.

4.5 Reliability

Streiner (2003:103) defined reliability as the degree to which “measurements of individuals on different occasions, or by different observers, or by similar or parallel tests, produce the same or similar results” and a Cronbach’s alpha value of 0.7 or higher is considered indicative of a reliable scale. Table 4-12 below summarises the reliability indicators.

Table 4-12: Reliability indicators

Construct	Cronbach's alpha	Mean inter-item correlations	Mean	Std. deviation
UWES	.948	.534	4.5944	.96528
BTI 1	.965	.845	5.1823	1.78107
BTI 2	.900	.640	4.4791	1.67764

BTI1 is the reliance-based trust items BTIQ1 to BTIQ5 and BTI2 is the disclosure-based trust items BTIQ6 to BTIQ10

The Cronbach’s alpha values of all three measuring instruments are above 0.9, which indicates that the measuring instruments are all reliable. This confirms that the items were formulated well and clearly understood by the respondents. According to McEvily and Tortoriello (2011: 55), their Cronbach’s alpha values for the BTI Disclosure items were 0.90 to 0.92, and the BTI Reliance items were 0.89 to 0.95. This is in line with the results as tabled in Table 4-12.

Critics may highlight a problem with the fact that the Cronbach’s alpha values are very high, which, according to Field (2009:821), is indicative of the presence of multi-collinearity. I do agree that this may be a shortfall within both the UWES and BTI measuring instruments, and I do suggest in my recommendations that further research needs to be done in order to further differentiate the UWES and BTI measuring instruments’ questions for further use.

Each measuring instrument’s questions, however, do clearly measure the different dimensions of trust and work engagement and therefore it could only be a sample phenomenon.

Furthermore, the mean inter-item correlation was also assessed to ensure multi-collinearity is not too severe.

Field (2009:678) indicated that mean inter-item correlation should preferably be between 0.3 and 0.6. From Table 4-12, it can be seen that the UWES construct is above 0.3 and below 0.6. However, both BTI constructs are above 0.6; however, as previously explained, respondents' similar feelings about different questions make up the factor, and it is not due to similar question wording, but a sample phenomenon. Therefore, multi-collinearity, though present, is not severe.

In conclusion, the Cronbach's alpha values together with the average inter-item correlations do serve as confirmation that there is enough correlation and that each of the constructs is reliable.

Based on the above results from Table 4-12, hence forward only the three constructs of UWES, BTI Disclosure and BTI Reliance shall be used further for exploratory analysis in this study.

4.6 Exploratory analysis

4.6.1 Parametric tests

Parametric tests were used to assess relationships between continuous variables as well as differences between groups.

Parametric tests can only be applied reliably to normally distributed data and normality can be assumed due to the Central Limit Theorem [CLT]. According to Investopedia (2013b), the CLT is a statistical theory stating that "given a sufficiently large sample size from a population with a finite level of variance, the mean of all samples from the same population will be approximately equal to the mean of the population" and "all samples will follow an approximate normal distribution pattern, with all variances being approximately equal to the variance of the population divided by each sample's size".

Investopedia (2013b) furthermore states that an applicable sample size does depend on data availability, but, in general, a sample size of at least 50 observations is sufficient. Our sample size was 244, which is much more than the minimum 50 as stated, and therefore we can assume normality.

Parametric tests usually also require homoscedastic data when comparing group means. To ensure a lack of homoscedasticity does not influence the reliability of

findings, the independent t-test with equal variances not assumed was employed. Furthermore, robust ANOVA models, which do not require homoscedasticity, were used to confirm standard ANOVA results.

4.6.2 Practical significance versus statistical significance

The Pearson's product-moment correlation coefficient was used to assess the relationships between the demographics and the three constructs and the results are tabled in Table 4-13.

Table 4-13: Pearson's product moment correlation coefficients

		Age	Qualification	Peromnes	Years at department	Years at institution	UWES1	BTI disclosure	BTI reliance
Age	Pearson correlation								
	p-value								
	N								
Qualification	Pearson correlation	0.083							
	p-value	0.200							
	N	242							
Peromnes	Pearson correlation	-0.230**	-0.565**						
	p-value	0.001	0.000						
	N	214	213						
Years at department	Pearson correlation	0.491**	0.013	-0.205**					
	p-value	0.000	0.845	0.003					
	N	239	238	211					
Years at institution	Pearson correlation	0.505**	0.044	-0.172*	0.890**				
	p-value	0.000	0.505	0.012	0.000				
	N	238	237	211	236				
UWES	Pearson correlation	0.213**	0.019	-0.137	0.043	0.053			
	p-value	0.001	0.782	0.053	0.526	0.437			
	N	224	223	200	222	220			
BTI disclosure	Pearson correlation	-0.010	-0.031	-0.035	-0.070	-0.072	0.364**		
	p-value	0.881	0.647	0.623	0.307	0.299	0.000		
	N	215	214	194	214	212	215		
BTI reliance	Pearson correlation	-0.013	0.030	-0.076	-0.092	-0.085	0.486**	0.711**	
	Sig. (2-tailed)	0.851	0.666	0.290	0.182	0.215	0.000	0.000	
	N	215	214	194	214	212	215	215	

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

The only relevant correlation between the three constructs and the demographics of the respondents was a statistically significant positive correlation between UWES and age ($p=0.001$; $r=0.213$; $n=224$), which suggests that older respondents tend to score higher on work engagement. No other construct had any p-values smaller than 0.05.

The correlations between the three constructs did all indicate statistical significance, which is depicted in Table 4-14.

Table 4-14: Constructs’ Pearson’s product moment correlation coefficients

		UWES	BTI Disclosure
BTI Disclosure	Pearson correlation	0.364	
	p-value	.000	
	N	215	
BTI Reliance	Pearson Correlation	0.486	0.711
	Sig. (2-tailed)	.000	.000
	N	215	215

A practical, visible positive correlation between UWES and BTI Disclosure exists, which indicates that respondents who tend to score high on BTI Disclosure also tend to score high on the UWES.

Furthermore, a practical, visible positive correlation exists between UWES and BTI Reliance, which indicates that respondents who tend to score high on BTI Reliance also tend to score high on the UWES.

Lastly, a practically significant positive correlation between BTI Disclosure and BTI Reliance exists, which indicates that respondents who tend to score high on BTI Reliance also tend to score high on BTI Disclosure.

Due to the homogeneity of the sample (white, female, Afrikaans), only the differences between genders were comparable. An independent t-test, where equal variances were not assumed, was conducted to assess the differences between genders, where Cohen’s d-value was used as measure of effect size.

The results are tabled in **Table 4-15**. None of the constructs were statistically significantly different with respect to gender with p-values less than 0.05 and also none of the mean construct scores differed practically significantly between males and females as no d-values were larger than 0.5.

Table 4-15: Results from the t-test for gender

Gender		N	Mean	Std. deviation	Cohen's d-value	p-value *
BTI Reliance	Female	153	5.0928	1.91820	0.162	0.186
	Male	62	5.4032	1.37495		
BTI Disclosure	Female	153	4.4026	1.77764	0.149	0.247
	Male	62	4.6677	1.39599		
UWES	Female	160	4.5239	0.94607	0.247	0.093
	Male	64	4.7706	0.99752		

* Equal variances not assumed

4.7 Predictive modelling

Structural equation modelling [SEM] was used to perform predictive modelling for this study. The IBM SPSS-Amos 17.0.0 statistical program was used by the North-West University's Statistical Consultation Services to perform SEM. This software enables one to specify, estimate, assess and present models to show hypothesised relationships among variables. SPSS Amos also allows the building of attitudinal and behavioural models that reflect complex relationships (IBM, 2013a).

4.7.1 Model setup

Structural equation modelling [SEM] was used to predict work engagement (UWES) with BTI Disclosure-based trust and BTI Reliance-based trust as predictors.

It should be noted that the intended correlation was only done between BTI Reliance-based trust, BTI Disclosure-based trust and UWES as variables themselves, and not between their respective sub-dimensions of which each BTI variable has five sub-dimensions and UWES has 17 sub-dimensions.

The BTI factors were allowed to co-vary and the **UWES – BTI² model** is pictured in Figure 4-1.

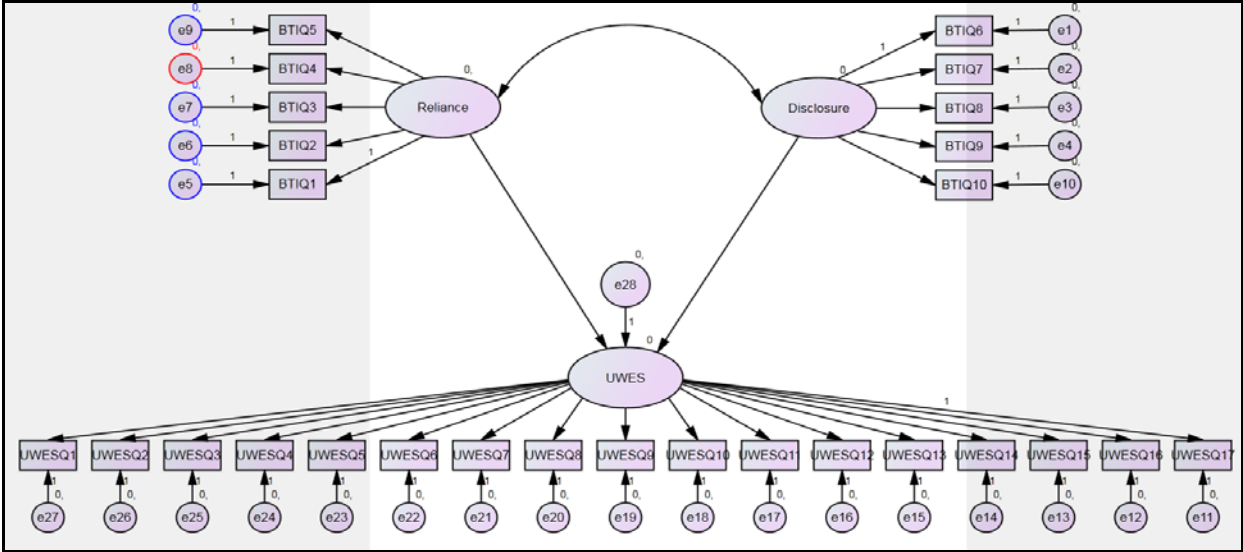


Figure 4-1: Structural Equation Model UWES – BTI²

4.7.2 Model fit

A good model fit would provide an insignificant result at a 0.05 threshold (Barrett, 2007:816).

The Chi-square test was significant ($p < 0.0001$) indicating a lack of fit ($\chi^2 = 998.42$, degrees of freedom = 321); however, according to Hancock and Mueller (2010:379), this measure of fit is known to be overly sensitive and they suggest researchers to report multiple fit indices.

However, other model fit statistics were also not acceptable. The Root Mean Square Error of Approximation [RMSEA] equalling 0.093 almost doubles the maximum of 0.05 at a 90% confidence interval, which Hancock and Mueller (2010:379) indicated as an acceptable statistic. The Tucker Lewis Index [TLI], equalling 0.849, and the Comparative Fit Index [CFI], equalling 0.872, are below 0.95, which Hancock and Mueller (2010:379) indicated as a minimum value, therefore too low.

4.7.3 Model findings

Given the lack of fit, the further interpretation of the model is not appropriate; however, the following findings were of interest:

- There was a statistically and practically significant correlation between the two BTI constructs ($p=0.000$; $r=0.711$);
- BTI Reliance was a predictor of work engagement (UWES) with a p-value less than 0.001.

4.8 Discussion

The primary research objective was to conceptualise the relationship between the dimensions of leadership trust and work engagement and we set out to predict work engagement from the two sub-dimensions of leadership trust, being disclosure-based trust and reliance-based trust as measured by the Behavioural Trust Inventory. Empirically, we found that only reliance-based trust was a predictor of work engagement but no predictive modelling of work engagement was possible from the proposed model.

This does, however, contribute to the body of knowledge on the relationship between leadership trust and work engagement as follows:

- (a) Management should take note that from this institution specific study disclosure-based trust is shown not to be a predictor of work engagement which is contradictory to the literature. Employees are therefore not keen on confiding in or sharing their personal feelings or beliefs with their leaders, as it their perception that this may expose their personal vulnerability
- (b) Management could consider to do further research on this subject by collecting more data which may result in a less homogeneous sample
- (c) Management could consider to do further research on this subject by simplifying the model around the UWES 17 in order to predict work engagement
- (d) Because reliance-based trust was indicated to be a predictor of work engagement, management should try to build reliance-based trust to optimise employee work engagement, and therefore must take cognisance of the behaviours that employees may reveal, which are that employees do:
 - depend on their leaders to back them during difficult circumstances;
 - depend on their leaders to handle important matters on their behalf;
 - rely on their leaders' work-related judgements;

- rely on their leaders to represent their work accurately to others; and
- rely on their leaders' task-related skills and abilities.

Therefore, management ought to create an organisational environment where employees are willing to take risk, based on the support structure provided by their leaders within this environment, as well as the behaviour of this leader that instils reliance-based trust. Management should therefore invest in their leaders to develop their reliance-based trust skills as well as their judgement skills. The above is an indication that the literature review and the empirical study do come together at the end as noted in the literature review.

4.9 Chapter summary

This chapter reported on the empirical research results, which were discussed in terms of the quantitative results. Three questionnaires, consisting of a biographical questionnaire, the Utrecht Work Engagement Scale [UWES] and the Behavioural Trust Inventory [BTI] were combined into a single questionnaire. All theoretical and empirical objectives formulated for this research have been attained and hopefully this study has contributed to the body of knowledge regarding the relationship between leadership trust and work engagement.

Two factors were extracted from the BTI, accounting for 79.181% of the total variance. The factors were labelled BTI Reliance-based trust and BTI Disclosure-based trust and they conform to the literature review on the measuring instrument. One factor was extracted from the UWES, accounting for 54.245% of the total variance, and this factor was labelled UWES work engagement. Acceptable Cronbach alpha coefficients were found, demonstrating that a large portion of the variance is explained by the dimensions.

In the final chapter, conclusions on the hypothesis will be made, limitations of the study noted and recommendations made with regard to future research in this regard as well as proposed institutional-specific research.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In the previous chapter, deductions were made regarding the theoretical objectives and the empirical research undertaken and a discussion followed regarding the relationship between leadership trust and work engagement.

In this fifth and last chapter, conclusions on the hypothesis will be made, limitations of the study will be noted and recommendations will be made regarding proposed future and institutional-specific research to be undertaken.

5.2 Conclusions made from findings

The primary research objective was to predict work engagement from leadership trust and empirically we found only reliance-based trust to be a predictor of work engagement.

This primary objective was reached by means of the successful completion of the secondary objectives. This came from establishing a theoretical base on the constructs of both leadership trust and work engagement, as well as all the sub-dimensions of these constructs, sourcing documented and authenticated measuring instruments to measure both leadership trust and work engagement, compiling a biographical questionnaire by amalgamating all three questionnaires into a single survey.

Furthermore, the relationships between leadership trust and work engagement were empirically tested by attaining primary data from an appropriate unbiased sample and statistically analysing it, allowing us to statistically ascertain which sub-dimension of leadership trust has the strongest relationship with work engagement and to make recommendations to management on how to improve engagement based on the findings.

It was, however, not possible to suggest a model for predicting work engagement from leadership trust.

5.3 Hypotheses acceptance or rejections

With regard to the individual research hypotheses as listed in 3.10, the following can be noted:

H1: The Behavioural Trust Inventory is a reliable measurement instrument for leadership trust. This hypothesis can be accepted, as the Cronbach's alpha values of the two sub-dimensions making up the Behavioural Trust Inventory were above 0.900, as can be seen in Table 4-12, which indicates that the measuring instrument is reliable.

H2: The Utrecht Work Engagement Scale is a reliable measurement instrument for work engagement. This hypothesis can be accepted, as the Cronbach's alpha value was noted as 0.948 in Table 4-12, which indicates that the measuring instrument is reliable.

H3: There is a significant positive relationship between reliance-based trust and vigour enabling reliance-based trust to be a predictor of vigour. This hypothesis should be rejected, as only one factor could be extracted from the UWES measuring instrument, thereby not allowing for the vigour sub-dimension to be measured against reliance-based trust.

H4: There is a significant positive relationship between disclosure-based trust and vigour enabling disclosure-based trust to be a predictor of vigour. This hypothesis should be rejected, as only one factor could be extracted from the UWES measuring instrument, thereby not allowing for the vigour sub-dimension to be measured against disclosure-based trust.

H5: There is a significant positive relationship between reliance-based trust and dedication enabling reliance-based trust to be a predictor of dedication. This hypothesis should be rejected, as only one factor could be extracted from the UWES measuring instrument, thereby not allowing for the dedication sub-dimension to be measured against reliance-based trust.

H6: There is a significant positive relationship between disclosure-based trust and dedication enabling disclosure-based trust to be a predictor of dedication. This hypothesis should be rejected, as only one factor could be extracted from the UWES

measuring instrument, thereby not allowing for the dedication sub-dimension to be measured against disclosure-based trust.

H7: There is a significant positive relationship between reliance-based trust and absorption enabling reliance-based trust to be a predictor of absorption. This hypothesis should be rejected, as only one factor could be extracted from the UWES measuring instrument, thereby not allowing for the absorption sub-dimension to be measured against reliance-based trust.

H8: There is a significant positive relationship between disclosure-based trust and absorption enabling disclosure-based trust to be a predictor of absorption. This hypothesis should be rejected, as only one factor could be extracted from the UWES measuring instrument, thereby not allowing for the absorption sub-dimension to be measured against disclosure-based trust.

H9: A significant positive mutual reinforcing relationship exists between leadership trust and employee engagement. This hypothesis can be accepted, as a statistically significant correlation and practical, visible positive correlation exist between the two sub-dimensions of leadership trust, measured by the BTI, and the UWES measuring employee engagement.

5.4 Limitations of the study

The following limitations to this study were identified:

- The homogeneity of the sample with the majority of respondents being Afrikaans-speaking, white females only allowed for the difference between genders to be comparable and therefore limiting further statistical analyses and the possibility for further correlations.
- The fact that the results obtained were all from a single organisation within a single province of South Africa also limited generalisations about the general South African population.
- No model fit could be established for predictive modelling using structural equation modelling and therefore it was not possible to suggest a model to predict work engagement from leadership trust out of this study.

5.5 Recommendations

Recommendations are done in two sections. The first section consists of recommendations specific to the institution where the empirical survey was done based on the results from the survey relating to the institution itself.

The second section consists of recommendations regarding possible future research to be undertaken to fill gaps in the body of knowledge not addressed by previous research and identified within this study.

5.5.1 Institution specific

This research has shown reliance-based trust to be a predictor of work engagement and therefore management could optimise employee work engagement by building reliance-based trust. This needs to be taken up with the Registrar of the University.

Reliance-based trust is built by confirming the employees' perceptions that their leader will back them during difficult circumstances and the leader can be trusted to handle important matters on their behalf. Adding to the above, employees need to be reassured that they can rely on their leader's work-related judgements, task-related skills and abilities and that their leader will represent their work accurately to others.

This confirmation can only be made if the leaders are properly equipped and empowered, which can be arrived at by an investment in the development of the leaders of the institution and should be taken up with the Campus Registrar.

5.5.2 Future research

Contradictory to Gillespie's theory, Table 4-6 indicated that items BTIQ6, BTIQ7 and BTIQ8 did load onto both factors of the BTI and these three items even loaded higher onto the first factor than the second factor, which suggests that further research is needed within the South African context in order to determine whether some items in the BTI need to be reformulated to clearly differentiate between the two constructs.

Schaufeli *et al.* (2004a:17) concluded in their validation of the UWES scale that work engagement, as assessed by the UWES scale, may be considered either a one-dimensional or a three-dimensional construct. In this study, as well as the study by Marescaux *et al.* (2010:19), a single factor was indicated and if the UWES-17 scale is to

be used for further research purposes, definitive research is needed on the UWES-17 scale in order to finally determine whether the scale should be considered a one-dimensional or a three-dimensional construct.

It is also advisable for any future South African studies on the construct of work engagement to make use of other measurement instruments that are specifically standardised for the South African context, as this may result in a more diversified measure of work engagement.

5.6 Chapter summary

In this final chapter, conclusions on the hypotheses were made, limitations of the study were noted and recommendations were made to the institution itself as well as on future research to be undertaken.

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Appendices

Appendix A: Original published Behavioural Trust Inventory

Appendix 1: The Behavioral Trust Inventory								
Note: Items 1-5 tap reliance-based trust and items 6-10 tap disclosure-based trust.								
Please indicate how willing you are to engage in each of the following behaviours with your Leader/Team Member/Follower, by circling a number from 1 to 7.								
		Not at all willing			Completely willing			
		1	2	3	4	5	6	7
1.	Rely on your leader's task related skills and abilities.	1	2	3	4	5	6	7
2.	Depend on your leader to handle an important issue on your behalf.	1	2	3	4	5	6	7
3.	Rely on your leader to represent your work accurately to others.	1	2	3	4	5	6	7
4.	Depend on your leader to back you up in difficult situations.	1	2	3	4	5	6	7
5.	Rely on your leader's work-related judgements.	1	2	3	4	5	6	7
6.	Share your personal feelings with your leader.	1	2	3	4	5	6	7
7.	Discuss work-related problems or difficulties with your leader that could potentially be used to disadvantage you.	1	2	3	4	5	6	7
8.	Confide in your leader about personal issues that are affecting your work.	1	2	3	4	5	6	7
9.	Discuss how you honestly feel about your work, even negative feelings and frustration.	1	2	3	4	5	6	7
10.	Share your personal beliefs with your leader.	1	2	3	4	5	6	7

Source: Gillespie (2012:175)

Appendix B: Original English published Utrecht Work Engagement Scale

Work & Well-being Survey (UWES) ©

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the "0" (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

1. _____ At my work, I feel bursting with energy
2. _____ I find the work that I do full of meaning and purpose
3. _____ Time flies when I'm working
4. _____ At my job, I feel strong and vigorous
5. _____ I am enthusiastic about my job
6. _____ When I am working, I forget everything else around me
7. _____ My job inspires me
8. _____ When I get up in the morning, I feel like going to work
9. _____ I feel happy when I am working intensely
10. _____ I am proud of the work that I do
11. _____ I am immersed in my work
12. _____ I can continue working for very long periods at a time
13. _____ To me, my job is challenging
14. _____ I get carried away when I'm working
15. _____ At my job, I am very resilient, mentally
16. _____ It is difficult to detach myself from my job
17. _____ At my work I always persevere, even when things do not go well

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Source: Schaufeli and Bakker (2004a:48)

Appendix C: Original Afrikaans published Utrecht Work Engagement Scale

WERKSBELEWINGSVRAELYS (UWES) ©

Die doel van hierdie vraelys om vas te stel hoe jy jou werk beskou. Hier onder volg stellings wat verband hou met hoe mense oor hulle werk kan voel. Lees asseblief elke stelling sorgvuldig deur en besluit dan of jy ooit so oor **jou** werk voel. As jy nog nooit hierdie gevoel gehad het nie, kies dan die "0" (nul) in die spasie langs die stelling. Indien jy voel die stelling is van toepassing, kies dan die toepaslike nommer (van 1 tot 6) om aan te dui hoe dikwels jy so voel.

0	Sporadies	Af en toe	Gereeld	Dikwels	Baie dikwels	Altyd
0	1	2	3	4	5	6
Nooit	'n Paar keer per jaar of minder	Een keer per maand of minder	'n Paar keer per maand	Een keer per week	'n Paar keer per week	Elke dag

1. _____ Ek is tot oorloeps toe vol energie in my werk
2. _____ Ek voel dat my werk sinvol en betekenisvol is
3. _____ Die tyd vlieg verby wanneer ek werk
4. _____ Ek voel sterk en energiek in my werk
5. _____ Ek is entoesiasies oor my werk
6. _____ Wanneer ek werk, vergeet ek van alles verder rondom my
7. _____ My werk inspireer my
8. _____ Wanneer ek soggens opstaan, het ek lus om werk toe te gaan
9. _____ Ek voel gelukkig wanneer ek verdiep is in my werk
10. _____ Ek is trots op die werk wat ek doen
11. _____ Ek is verdiep in my werk
12. _____ In my werk kan ek vir baie lang tye op 'n slag aanhou werk
13. _____ My werk is vir my uitdagend
14. _____ Ek word weggevoer deur my werk
15. _____ Ek is geestelik baie buigsam in my werk
16. _____ Dit is vir my moeilik om my van my werk los te maak
17. _____ Ek volhard altyd by my werk, selfs al gaan dinge nie goed nie

© Schaufeli & Bakker (2003). Die UWES mag vryelik gebruik word vir nie-kommersiële wetenskaplike doeleindes. Dit is verbode om die vraelys vir kommersiële en/of nie-wetenskaplike doelstellings te gebruik sonder vooraf skriftelike toestemming van die outeurs.

Source: Schaufeli and Bakker (2004a)

WAARDERING VAN DIE VERHOUDING TUSSEN LEIERSKAP
VERTROUEN EN WERKSBELEWING / ASSESSING THE RELATIONSHIP
BETWEEN LEADERSHIP TRUST AND WORK ENGAGEMENT

The English explanation follows on the next page after the Afrikaans.

Geagte XXXXX personeellid

Hierdie navorsing vorm deel van my MBA studies by die XXXXX. Daar is amptelik aansoek gedoen by die XXXXX se Etekkomitee onder verwysingsnommer XXXXX.

Die doel van hierdie studie is om die verwantskap tussen u vertroue in u direkte toesighouer en u werksbelewing te assesseer. U deelname sal daartoe bydrae dat daar meer kennis bekom word oor die verwantskap tussen die twee konstruksies asook hoe die twee konstruksies mekaar beïnvloed, indien enigiens.

Die sukses van die navorsing hang grootliks af van die aantal deelnemers wat die vraelys volledig voltooi. Indien daar genoegsame respondente is, mag dit selfs moontlik wees om 'n model daar te stel wat dit moontlik sal maak om werksbelewing te voorspel vanuit sommige dimensies van vertroue. Hierdie kan uiters waardevol wees vir bestuur! U deelname is dus van uiterste belang!

Ek kan u verseker dat alle informasie wat ingesamel word met hierdie vraelys vertroulik sal bly. Verder kan ek u ook verseker dat u deelname anoniem is en ook so sal bly. Die resultate van die vraelys sal slegs vir navorsingsdoeleindes gebruik word.

Die vraelys word in drie gedeeltes opgedeel. Deel 1 is basiese biografiese informasie met 9 vrae, deel 2 is 'n werksbelewingsvraelys met 17 vrae en deel 3 is 'n vertroue inventaris met 10 vrae.

Instruksies:

- Alle vrae is verpligtend.
- Dui jou antwoord aan deur te klik op die betrokke blokkie.
- Beweeg vorentoe deur die vraelys deur te klik op die 'Volgende Bladsy' opsie.
- Beweeg terug deur die vraelys deur te klik op die 'Vorige Bladsy' opsie.
- Indien voltooi, klik op 'Stuur' vir elektroniese versending van die vraelys.

Vir enige verdere navrae, kontak my gerus by 083-643-2620.

By voorbaat dankie vir u voorgenome deelname.
Greg Roberts

WAARDERING VAN DIE VERHOUDING TUSSEN LEIERSKAP VERTROUE EN WERKSBELEWING / ASSESSING THE RELATIONSHIP BETWEEN LEADERSHIP TRUST AND WORK ENGAGEMENT

Die Afrikaanse uiteensetting kan u op die vorige bladsy verkry.

Dear XXXXX staff member

This research forms part of my MBA studies at the XXXXX. An official application at the Ethics Committee of the XXXXX was done with the following reference number XXXXX.

The reason for this research is to assess the relationship between the trust you have in your direct supervisor and your work engagement because of this trust. Your participation will contribute towards the pool of knowledge towards the better understanding of these two constructs as well as the possible influence each construct might have on the other, if any.

The success of this research depends largely on the count of participants fully completing this survey. If enough respondents complete the survey it may even be possible to put forward a model to predict work engagement from the sub dimensions of leadership trust. This could be of great value to management. Your participation is therefore of the utmost importance!

I can assure you that all collected information will remain confidential. I can also assure you that your participation will remain anonymous and the results of this survey will only be used for research purposes.

This survey is set out in three parts. Part 1 consist of basic biographical information with 9 questions, part 2 with 17 questions on work and well-being and part 3 a behavioural trust inventory with 10 questions.

Instructions:

- All questions are mandatory
- Indicate your answer by clicking on the relevant square
- Move forward through the survey by clicking the "Next page" option
- Move backwards through the survey by clicking the "Previous page" option
- On completion, click on "Send" to submit the survey electronically

In case of any questions, please contact me at 083-643-2620.

Thank you for your envisaged participation.
Greg Roberts

DEEL 2: UWES Werksbelewingsvraelys / PART 2: UWES Work & Well-being Survey

Die doel van hierdie vraelys is om vas te stel hoe jy jou werk beleef. Hier onder volg 17 stellings wat verband hou met hoe mense oor hulle werk kan voel. Lees asseblief elke stelling sorgvuldig deur en besluit dan of jy ooit so oor jou werk voel. As jy nog nooit hierdie gevoel gehad het nie, kies dan die “0” in die spasie langs die stelling. Indien jy voel die stelling is van toepassing, kies dan die toepaslike nommer van 1 tot 6 om aan te dui hoe dikwels jy so voel.

The goal behind this survey is to assess how you feel about your work. The following 17 statements are about how you may feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you never had this feeling, choose the “0” in the space after the statement. If you ever had this feeling, indicate how often you feel it by choosing a number from 1 to 6 that best describes how frequently you feel that way.

Gebruik asseblief die onderstaande gyskaal om die volgende 17 vrae te beantwoord: / Please use this rating scale to answer the following 17 questions:

Nooit nie	Sporadies of 'n paar keer per jaar of minder	Af en toe of een keer per maand of minder	Gereeld of 'n paar keer per maand	Dikwels of een keer per week	Baie dikwels of 'n paar keer per week	Altyd of elke dag
0	1	2	3	4	5	6
Never	Almost never or a few times a year or less	Rarely or once a month or less	Sometimes or a few times per month	Often or once a week	Very often or a few times per week	Always or every day

Beantwoord asseblief die volgende vrae / Please answer the following questions

- Ek is tot oorloepens toe vol energie in my werk / At my work, I feel bursting with energy
 0 1 2 3 4 5 6
- Ek voel dat my werk sinvol en betekenisvol is / I find the work that I do full of meaning and purpose
 0 1 2 3 4 5 6
- Die tyd vlieg verby wanneer ek werk / Time flies when I'm working
 0 1 2 3 4 5 6
- Ek voel sterk en energiek in my werk / At my job, I feel strong and vigorous
 0 1 2 3 4 5 6
- Ek is entoesiasties oor my werk / I am enthusiastic about my job
 0 1 2 3 4 5 6

DEEL 2: UWES Werksbelewingsvraelys vervolg / PART 2: UWES Work & Well-being Survey continues

Gebruik asseblief die onderstaande gyskaal / Please use this rating scale:

Nooit nie	Sporadies of 'n paar keer per jaar of minder	Af en toe of een keer per maand of minder	Gereeld of 'n paar keer per maand	Dikwels of een keer per week	Baie dikwels of 'n paar keer per week	Altyd of elke dag
0	1	2	3	4	5	6
Never	Almost never or a few times a year or less	Rarely or once a month or less	Sometimes or a few times per month	Often or once a week	Very often or a few times per week	Always or every day

6. Wanneer ek werk, vergeet ek van alles verder rondom my / When I am working, I forget everything else around me

0 1 2 3 4 5 6

7. My werk inspireer my / My job inspires me

0 1 2 3 4 5 6

8. Wanneer ek soggens opstaan, het ek lus om werk toe te gaan / When I get up in the morning, I feel like going to work

0 1 2 3 4 5 6

9. Ek voel gelukkig wanneer ek verdiep is in my werk / I feel happy when I am working intensely

0 1 2 3 4 5 6

10. Ek is trots op die werk wat ek doen / I am proud of the work that I do

0 1 2 3 4 5 6

11. Ek is verdiep in my werk / I am immersed in my work

0 1 2 3 4 5 6

12. In my werk kan ek vir baie lang tye op 'n slag aanhou werk / I can continue working for very long periods at a time

0 1 2 3 4 5 6

13. My werk is vir my uitdagend / To me, my job is challenging

0 1 2 3 4 5 6

14. Ek word weggevoer deur my werk / I get carried away when I'm working

0 1 2 3 4 5 6

15. Ek is geestelik baie buigsaam in my werk (Ek is intellektueel baie sterk by my werk) / At my job, I am very resilient, mentally

0 1 2 3 4 5 6

16. Dit is vir my moeilik om my van my werk los te maak / It is difficult to detach myself from my job

0 1 2 3 4 5 6

17. Ek volhard altyd by my werk, selfs al gaan dinge nie goed nie / At my work I always persevere, even when things do not go well

0 1 2 3 4 5 6

DEEL 3: Die Gedragsvertroue Inventaris / PART 3: The Behavioural Trust Inventory

Dui asseblief aan wat u mening is rondom elk van die volgende stellings ten opsigte van u direkte toesighouer. U direkte toesighouer is die eersvolgende persoon aan wie u rapporteer; nie noodwendig u afdelingshoof nie.

Please indicate your opinion on each of the following statements with regards to your direct supervisor. Your direct supervisor is the first person to which you must report; Not necessarily the head of your department.

Gebruik asseblief die onderstaande gyskaal om die volgende 10 vrae te beantwoord: / Please use this rating scale to answer the following 10 questions:

Nee, glad nie	Sporadies	Af en toe	Gereeld	Dikwels	Baie dikwels	Absoluut
1	2	3	4	5	6	7
Not at all	Almost never	Rarely	Sometimes	Often	Very often	Completely

Beantwoord asseblief die volgende vrae / Please answer the following questions

- Het jy vertroue in jou direkte toesighouer se vaardighede en vermoëns? / Do you rely on your leader's task related skills and abilities?
 1 2 3 4 5 6 7
- Het jy vertroue in jou direkte toesighouer om 'n belangrike saak namens jou te kan hanteer? / Do you depend on your leader to handle an important issue on your behalf?
 1 2 3 4 5 6 7
- Het jy vertroue dat jou direkte toesighouer jou werk akkuraat aan ander sal voorlê? / Do you rely on your leader to represent your work accurately to others?
 1 2 3 4 5 6 7
- Het jy vertroue dat jou direkte toesighouer jou sal ondersteun in 'n moeilike situasie? / Do you depend on your leader to back you up in difficult situations?
 1 2 3 4 5 6 7
- Het jy vertroue in jou direkte toesighouer se werksoordeel? / Do you rely on your leader's work-related judgements?
 1 2 3 4 5 6 7
- Het jy vertroue om jou persoonlike gevoelens met jou direkte toesighouer te deel? / Do you share your personal feelings with your leader?
 1 2 3 4 5 6 7

DEEL 3: Die Gedragsvertroue Inventaris vervolg / PART 3: The Behavioural Trust Inventory continues

Gebruik asseblief die onderstaande gyskaal om die volgende 10 vrae te beantwoord: / Please use this rating scale to answer the following 10 questions:

Nee, glad nie	Sporadies	Af en toe	Gereeld	Dikwels	Baie dikwels	Absoluut
1	2	3	4	5	6	7
Not at all	Almost never	Rarely	Sometimes	Often	Very often	Completely

7. Het jy vertroue om werksverwante probleme of ongemaklike situasies met jou direkte toesighouer te deel wat moontlik later gebruik mag word om jou te benadeel? / Do you discuss work-related problems or difficulties with your leader that could potentially be used to disadvantage you?

1 2 3 4 5 6 7

8. Het jy vertroue in jou direkte toesighouer om persoonlike sake wat jou werk beïnvloed mee te bespreek? / Do you confide in your leader about personal issues that are affecting your work?

1 2 3 4 5 6 7

9. Het jy al ooit openlik genoem hoe jy voel oor jou werk, selfs negatiewe gevoelens en frustrasies? / Do you discuss how you honestly feel about your work, even negative feelings and frustration?

1 2 3 4 5 6 7

10. Het jy al ooit jou persoonlike menings met jou direkte toesighouer gedeel? / Do you share your personal beliefs with your leader?

1 2 3 4 5 6 7

Baie dankie vir u bereidwilligheid om deel te neem aan die navorsing.

Greg Roberts

Thank you for taking the time to complete this survey.

Greg Roberts