

**Sense of Coherence, Work Engagement and Organisational
Commitment within an Automotive Development Institution**

By

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**SENSE OF COHERENCE, WORK ENGAGEMENT AND ORGANISATIONAL
COMMITMENT WITHIN AN AUTOMOTIVE DEVELOPMENT INSTITUTION**

by

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SUMMARY

This research explores the relationship between sense of coherence, work engagement and organisational commitment in an automotive development institution in South Africa. The study was conducted through quantitative research. The study used the Orientation to Life Questionnaire (OLQ) to measure sense of coherence, the Utrecht Work Engagement Scale (UWES) to measure work engagement and the Organisational Commitment Scale (OCS) to measure organisational commitment. A biographical questionnaire was also used. The questionnaires were administered to a sample of 46 employees, 37 of whom were based in the company's Pretoria office and nine at their Eastern Cape office. In view of the fact that the sample was small, 100 % of the population was included in the study. A theoretical relationship between the constructs was determined and an empirical study provided evidence of the degree of relationship that existed between them. The results reveal significant relationships to exist between some sub-scales, however, statistical significance could not be reached for some correlations.

Key words:

Sense of coherence, work engagement, organisational commitment, comprehensibility, manageability, meaningfulness, vigour, dedication, absorption, affective commitment, normative commitment, continuance commitment

DECLARATION

Student number: 638-999-6

I, the undersigned, hereby declare that SENSE OF COHERENCE, WORK ENGAGEMENT AND ORGANISATIONAL COMMITMENT WITHIN AN AUTOMOTIVE DEVELOPMENT INSTITUTION is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

KOGIE PILLAY

DATE

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TABLE OF CONTENTS	PAGE
CHAPTER 1: INTRODUCTION	1
1.1 BACKGROUND TO AND MOTIVATION FOR THE RESEARCH	1
1.2 PROBLEM STATEMENT	5
1.3 AIMS OF THE RESEARCH	8
1.3.1 General aim	8
1.3.2 Specific aims	8
1.4 PARADIGM PERSPECTIVE	9
1.4.1 Relevant psychological paradigms	9
1.4.1.1 Positive psychology paradigm	9
1.4.1.2 Salutogenic paradigm	10
1.4.1.3 Functionalist paradigm	10
1.4.2 Applicable metatheoretical concepts	11
1.4.2.1 Industrial psychology	11
1.4.2.2 Organisational behaviour	11
1.4.2.3 Employee and organisational wellness	12
1.4.3 Applicable behavioural models and theories	12
1.4.3.1 Sense of coherence models and theories	13
1.4.3.2 Work engagement	13
1.4.3.3 Organisational commitment	13
1.4.4 Applicable concepts and constructs	13
1.4.4.1 Sense of coherence	13
1.4.4.2 Work engagement	14
1.4.4.3 Organisational commitment	15
1.4.5 Methodological convictions	16
1.4.5.1 Sociological dimension	17

1.4.5.2	Ontological dimension	17
1.4.5.3	Teleological dimension	17
1.4.5.4	Epistemological dimension	18
1.4.5.5	Methodological dimension	18
1.4.6	Central hypothesis	18
1.5	RESEARCH DESIGN	19
1.5.1	Research variables	19
1.5.2	Type of research	19
1.5.3	Unit of analysis	20
1.5.4	Methods to ensure reliability and validity	20
1.5.4.1	Reliability	20
1.5.4.2	Validity	21
1.6	RESEARCH METHOD	21
1.6.1	Phase 1: Literature review	21
1.6.2	Phase 2: Empirical study	23
1.6.3	Phase 3: Conclusions, limitations and recommendations	25
1.7	CHAPTER DIVISION	26
1.8	SUMMARY OF CHAPTER	27
 CHAPTER 2: LITERATURE REVIEW		28
2.1	SENSE OF COHERENCE	28
2.1.1	Development of sense of coherence	28
2.1.2	Definition of sense of coherence	28
2.1.3	Concepts of sense of coherence	30
2.1.3.1	Comprehensibility	30
2.1.3.2	Manageability	30
2.1.3.3	Meaningfulness	31

2.1.4	Characteristics of sense of coherence	31
2.1.5	Application of sense of coherence	33
2.2	WORK ENGAGEMENT	35
2.2.1	Development of work engagement	35
2.2.2	Definition of work engagement	35
2.2.3	Concepts of work engagement	37
2.2.3.1	Vigour	37
2.2.3.2	Dedication	37
2.2.3.3	Absorption	37
2.2.4	Characteristics of work engagement	38
2.2.5	Application of work engagement	38
2.3	ORGANISATIONAL COMMITMENT	39
2.3.1	Development of organisational commitment	39
2.3.2	Definition of organisational commitment	40
2.3.3	Concepts of organisational commitment	41
2.3.3.1	Affective	41
2.3.3.2	Continuance	41
2.3.3.3	Normative	41
2.3.4	Characteristics of organisational commitment	41
2.3.5	Application of organisational commitment	42
2.4	THEORETICAL INTEGRATION OF SENSE OF COHERENCE, WORK ENGAGEMENT AND ORGANISATIONAL COMMITMENT	43
2.5	SUMMARY OF CHAPTER	47

CHAPTER 3: EMPIRICAL STUDY **49**

3.1	POPULATION AND SAMPLE	49
3.2	MEASURING INSTRUMENTS	50
3.2.1	Orientation to Life Questionnaire (OLQ)	50

3.2.1.1	Development	50
3.2.1.2	Rationale	51
3.2.1.3	Aim	51
3.2.1.4	Dimensions	52
3.2.1.5	Administration	53
3.2.1.6	Interpretation	53
3.2.1.7	Reliability and validity	53
3.2.1.8	Justification for use	54
3.2.2	Utrecht Work Engagement Scale (UWES)	55
3.2.2.1	Development	55
3.2.2.2	Rationale	56
3.2.2.3	Aim	56
3.2.2.4	Dimensions	57
3.2.2.5	Administration	58
3.2.2.6	Interpretation	58
3.2.2.7	Reliability and validity	59
3.2.2.8	Justification for use	59
3.2.3	Organisational Commitment Scale (OCS)	60
3.2.3.1	Development	60
3.2.3.2	Rationale	61
3.2.3.3	Aim	62
3.2.3.4	Dimensions	62
3.2.3.5	Administration	63
3.2.3.6	Interpretation	63
3.2.3.7	Reliability and validity	63
3.2.3.8	Justification for use	64
3.2.4	Biographical questionnaire	64
3.3	DATA COLLECTION	65
3.4.	DATA PROCESSING	65

3.4.1	Biographical data	65
3.4.2	Descriptive statistics and internal reliability of instruments	66
3.4.3	Inter-item correlation	67
3.4.4	Correlations	67
3.4.5	Biographical variables	68
3.4.6	Regression analysis	68
3.5	FORMULATION OF HYPOTHESIS	69
3.6	SUMMARY OF CHAPTER	70

CHAPTER 4: RESEARCH RESULTS **71**

4.1	BIOGRAPHICAL STATISTICS	71
4.2	DESCRIPTIVE STATISTICS	79
4.2.1.	Orientation to Life Questionnaire (OLQ)	79
4.2.2.	Utrecht Work Engagement Scale (UWES)	82
4.2.3.	Organisational Commitment Scale (OCS)	83
4.3	CORRELATIONS	85
4.3.1	Sense of coherence and work engagement	85
4.3.2	Sense of coherence and organisational commitment	86
4.3.3	Work engagement and organisational commitment	88
4.3.4	Biographical variables	89
4.4	REGRESSION	93
4.5	INTEGRATION	96
4.6	SUMMARY OF CHAPTER	103

CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS **104**

5.1	CONCLUSIONS	104
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5.1.1	Literature review	104
5.1.2	Empirical study	106
5.2	LIMITATIONS OF THE RESEARCH	108
5.2.1	Literature review	108
5.2.2	Empirical study	108
5.3	RECOMMENDATIONS	109
5.4	SUMMARY OF CHAPTER	111
	REFERENCES	112

LIST OF TABLES		PAGE
Table 4.1	Number of years with the company (tenure)	71
Table 4.2	Number of years in current position	72
Table 4.3	Distribution of education level	73
Table 4.4	Distribution of age	74
Table 4.5	Gender distribution	75
Table 4.6	Marital status distribution	76
Table 4.7	Culture/Ethnic group distribution	77
Table 4.8	Distribution by province	78
Table 4.9	Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the OLQ	80
Table 4.10	Cronbach alphas of individual items of the OLQ	81
Table 4.11	Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the UWES	82
Table 4.12	Cronbach alphas of individual items of the UWES	83
Table 4.13	Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the OCS	83
Table 4.14	Cronbach alphas of individual items of the OCS	84
Table 4.15	Correlation between OLQ and UWES (n=46)	85
Table 4.16	Correlation between OLQ and OCS (n=46)	87
Table 4.17	Correlation between UWES and OCS (n=46)	88

Table 4.18	A non-parametric comparison (Mann-Whitney Test) between gender and sense of coherence, work engagement and organisational commitment	90
Table 4.19	A non-parametric comparison (Mann-Whitney Test) between province (Gauteng and Eastern Cape) and sense of coherence, work engagement and organisational commitment	92
Table 4.20	Stepwise regression results for sense of coherence and work engagement	94
Table 4.21	Model summary of stepwise regression results for sense of coherence and work engagement	94
Table 4.22	Stepwise regression results for sense of coherence and organisational commitment	95
Table 4.23	Model summary of stepwise regression results for sense of coherence and organisational commitment	95

LIST OF FIGURES

PAGE

Figure 4.1	Number of years with the company (tenure)	72
Figure 4.2	Number of years in current position	73
Figure 4.3	Distribution of education level	74
Figure 4.4	Distribution of age	75
Figure 4.5	Gender distribution	76
Figure 4.6	Marital status distribution	77
Figure 4.7	Culture/Ethnic group distribution	78
Figure 4.8	Distribution by province	79

CHAPTER 1: INTRODUCTION

This study focuses on the nature of the relationship between sense of coherence, work engagement and organisational commitment in a development institution of the South African automotive industry. This first chapter provides the background to and the motivation and problem statement of the research. It also sets out the aims, paradigm perspectives, research design and research method of the study. This chapter ends with a conclusion, limitations of the study, recommendations and the chapter division for the rest of this study.

1.1 BACKGROUND TO AND MOTIVATION FOR THE RESEARCH

We are living in times that are characterised by ongoing change which demands constant adaptation to new situations and changing environments. These changes affect us globally, nationally, politically, economically, socially and more importantly on an individual level in the workplace. Most people spend an average of eight hours per day at work, which means that a large part of their lives consist of work. People are not only subjected to change and unpredictability but also to high levels of crime, social problems in their communities and personal problems that emanate from their own homes. At work, they are further exposed to growing competition for talent, technological advancement, increasing globalisation and career self-management. It therefore becomes necessary to self-manage one's career, update one's skills and knowledge, ensure one's marketability and employability, and maintain one's professional and personal growth. In view of these work-related and environmental challenges and demands, it is intriguing to note how different people react to and cope with stress. The way that an individual perceives and manages his or her life is believed to significantly reduce his or her reaction to stressors, which explains why some people are more resilient in overcoming setbacks than others. This begs the question: Does one's mettle in coping with daily obstacles determine one's degree of work engagement and commitment to one's job and organisation?

Antonovsky (1987) was cognizant of the fact that despite the presence of overwhelming stress igniters, people can remain healthy. This field of study has led to the development of the concept of “salutogenesis”, which refers to the “origins of health” (Antonovsky, 1979). Strümpfer (1995) believes that it is not enough to study the origins of health and has expanded this thinking to include “fortigenesis” (the origins of strengths). Wissing and Van Eeden (2002) hold the view that there should be a shift in focus from the origins of psychological strengths as intimated by the constructs of salutogenesis and fortigenesis to the nature, dynamics and enhancement of psychological wellbeing. They propose that the term “psychofortology” (the science of psychological strengths) be used for the study of psychological wellbeing. The concept of psychofortology presents many constructs to explain psychological wellbeing or the enhancement of wellness. Strümpfer (1990) mentions the following as some core constructs: Antonovsky’s sense of coherence, Kobasa’s personality hardiness, Ben-Sira’s potency, Thomas and Colerick’s stamina and Rosenbaum’s learned resourcefulness. Although researchers have been preoccupied with understanding health and wellness for many years, Antonovsky’s (1987) work on sense of coherence was specifically undertaken to examine its impact on health.

Sense of coherence is believed to be entrenched in an individual’s historical and socio-cultural experiences. This implies that an individual will develop a strong sense of coherence over time, provided that resistance resources are repeated, consistent and regular (Rothmann, Jackson & Kruger, 2003). Experiences that propagate unpredictability, uncontrollability and uncertainty unquestionably produce a weak sense of coherence (Rothmann et al., 2003) and are associated with patterns of deteriorating health (Morrison & Clift, 2006). A strong sense of coherence positively influences how we see the world and enables us to cope successfully with the myriad of stressors that we are exposed to in the course of living (Antonovsky, 1993a).

Work engagement is another significant construct that seeks to explain the mindset of some people who operate with high levels of energy and have enduring mental resilience (Coetzee & Roythorne-Jacobs, 2007). Work engagement is commonly described as the opposite of burnout (Bosman, Rothmann & Buitendach, 2005). Engaged individuals

exhibit ownership and responsibility for their work, are excited and enthusiastic about their jobs, persevere to give their best even when faced with obstacles; their jobs inspire and challenge them; and they love to be absorbed in their work (Coetzee & Roythorne-Jacobs, 2007). Work engagement is also referred to as a positive work-related state of mind that is characterised by vigour, dedication and absorption (Schaufeli, Bakker & Salanova, 2006). Rothmann (2003, p. 19) sees work engagement as a “persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour” and is characterised by energy, involvement and efficacy. Koyuncu, Burke and Fiksenbaum (2006) add that engaged workers exhibit vigour that is characterised by having more energy, being positive about their work and feeling that they are doing their jobs effectively. In addition to this, they demonstrate their dedication through enthusiasm, inspiration, pride and challenge (Bosman et al., 2005b). Engaged individuals enjoy their work to the point of absorption where they become unaware of time and cannot tear themselves away from their work (Schaufeli et al., 2006). Organisational leaders are recognising the benefits of having engaged employees and are realising that the key to their competitive advantage lies in their human capital and talent (Koyuncu et al., 2006) as opposed to technology, innovation or products. In view of this, more organisations are opting to capitalise on human assets by seeking to understand concepts such as optimism, trust and engagement (Koyuncu et al., 2006). The assumption is that if organisational leaders understand positive employee behaviours, attitudes and emotions, it can enhance employees' performance, production, work satisfaction and can contribute significantly to retaining talent.

Organisational commitment refers to the extent to which individuals belong, identify with and is committed to the goals of the organisation (Kreitner & Kinicki, 1995). Allen and Meyer (1993) identify three significant themes of commitment: affective attachment, perceived cost association and obligation. These themes are referred to as affective, continuance and normative commitment respectively (Allen & Meyer, 1993). Affective commitment revolves around the extent to which the individual identifies with the organisation, continuance commitment relates to the individual's need to continue to work and normative commitment demonstrates societal norms concerning what

individual commitment should be (Bosman, Buitendach & Laba, 2005). Therefore, employees with strong affective commitment stay with the organisation because they want to; those with strong continuance commitment remain because they need to; and those with strong normative commitment stay because they feel that they ought to (Allen & Meyer, 1990). Lok and Crawford (2004) point out that when employees are dissatisfied, they become less committed and look for opportunities to leave or emotionally withdraw from the organisation.

In the past numerous exhaustive studies focused on job dissatisfaction, absenteeism, job insecurity, burnout and stress (Koyuncu et al., 2006; Rothmann, 2003). Today the focus on the negative is changing dramatically and more researchers are emerging to explore the positive, optimistic perspectives of research and practice. Studies on job satisfaction (Lok & Crawford, 2004), organisational commitment (Rothmann, 2003), engagement (Koyuncu et al., 2006) and other positive constructs are receiving increasing attention in research because of the value that they provide in terms of understanding employees and implementing interventions to resolve key issues which relate to an organisation's most valuable asset: human capital.

Industrial and organisational psychologists are fundamentally concerned with understanding individuals and how they function in the work context. The impact of constructs that positively influence individuals in the workplace requires further exploration and understanding. The organisation's task to learn more about employees, to facilitate fulfilling careers, and to encourage good physical and mental health in pursuit of content and productive employees therefore becomes paramount.

Few studies have been done that specifically investigate the relationship between sense of coherence, work engagement and organisational commitment. This study therefore aims to intentionally examine the relationship between these variables.

1.2 PROBLEM STATEMENT

People in the 21st Century are generally exposed to more change, unpredictability and challenges than ever before. The changing nature of the workplace is often characterised by acquisitions, mergers, internal restructuring and downsizing to maximise profits, reduce costs and remain competitive (Greenhaus, Callanan & Godshalk, 2000). In addition, individuals are entering into new psychological contracts with employers that are characterised by personal career management which is aimed at ensuring employability, maintaining skills and knowledge, and encouraging transactional relationships in the workplace (Coetzee & Roythorne-Jacobs, 2007). While we know that people respond differently to stress, obstacles, setbacks or limitations, this raises interest in what stimulates coping, mental endurance, emotional resilience and good health. Greenhaus et al. (2000) refer to a study on how work-related stress drove employees to act unethically and, in some instances, illegally on the job. Compromised quality and production and an increase in errors are also reported when employees are unable to cope. Clearly, an inability to cope with stress, setbacks or life's challenges can have devastating consequences for both the individual and the organisation.

One South African study has confirmed that job insecurity is significantly related to burnout, decreased professional efficacy and lower levels of organisational commitment (Bosman et al., 2005a). Another study has concluded that work situations with overwhelming demands exacerbate exhaustion and cynicism and eventually erodes an individual's professional efficacy (Rothmann et al., 2003). Conversely, Koyuncu et al. (2006) have found that work engagement is related to positive work and that individual wellbeing, outcomes and organisational experiences directly influence levels of employee engagement. Another study has found that in terms of job satisfaction, employees who have access to wellness programmes demonstrate higher levels of job satisfaction (Ho, 1997). Du Buisson-Narsai (2005) recently studied the relationship between personal meaning, sense of coherence and organisational commitment in a small South African food services company and confirms positive relationships among these variables. Evidently, the focus on positive interventions in yielding positive outcomes in the study of people and organisations are receiving more attention and recognition and leads to

favourable results in the workplace. Therefore, managing the health of one's mind to cognitively and emotionally embrace stress, difficulties/challenges and develop resilience to environmental triggers becomes a sought-after commodity.

The organisation in this study was a small one and the CEO of the organisation was concerned about high levels of employee turnover. The staff complement was 46 employees (at the time of the data collection), many of whom were professionals; the organisation was aware of the fact that not all their employees were motivated by salary increases or monetary benefits. The organisation had lost many key employees and were keen to understand why their employees were unhappy. The organisation was named "Best Company to work for in 2006" but soon after lost many key employees to competitors. They were therefore interested in gaining more knowledge regarding their employees' attitudes, feelings and emotions about what was important to them (the employees) in their workplace. Because the organisation was small, the entire organisation (100% of the population) was surveyed to ensure that the findings were representative.

It is widely acknowledged that human capital is one of the most important components in any organisational system. Organisations are constantly searching for skilled and effective employees that will help them to achieve their objectives. Despite millions of unemployed people, there is still a global shortage of critical skills and talent. A study by Deloitte's confirm that critical talent in an organisation is poached by competitors, resulting in ruthless recruiting wars (Challah & Unwin, 2004). When knowledge and critical skills become limited, talent wars break out. The organisation in this study was confronted with raging competition for critical skills and knowledge; in an effort to establish more effective talent retention strategies, they wished to understand their employees' work-related requirements and emotions better. The organisation had lost vast amounts of money, time and effort in training because employees had left to join other companies. The organisation realised that monetary incentives were no longer the answer to retaining critical talent. In fact, many talent savvy organisations want to learn to understand their employees and what is important to them. Challah and Unwin (2004)

report that employees in the current world of work want their jobs to be more engaging; they want to learn how to perform their jobs better; they prefer a steady stream of fresh challenges and enjoy interacting positively with people in the work environment.

The organisation in this study was cognizant of the fact that employees are exposed to stressors from all around them. To this end, the organisation had embarked on several wellness efforts to equip their employees with strategies to more effectively manage their stress and their physical and mental health.

Furthermore, understanding the variables that stimulate positive impact on some individuals can further enlighten industrial and organisational psychologists or researchers on how to assist other individuals to reproduce the same strategies for success. The capacity to reproduce such patterns of behavioural success from an individual level to an organisational level has far-reaching significance in the field of industrial and organisational psychology, especially in terms of the work of industrial and organisational psychologists.

This study therefore aspires to examine the relationships (if any) between sense of coherence, work engagement and organisational commitment in an attempt to better understand positive organisational behaviours in an automotive development organisation.

This research seeks to investigate and report on the following questions:

1. What is the theoretical nature of sense of coherence, work engagement and organisational commitment?
2. What is the relationship (if any) between sense of coherence, work engagement and organisational commitment?
3. Do biographical variables such as gender and geographical location (region) report different levels of sense of coherence, work engagement and organisational commitment?

4. Can sense of coherence predict work engagement?
5. Can sense of coherence predict organisational commitment?

1.3 AIMS OF THE RESEARCH

1.3.1 General aim

The general aim of this research is to investigate the relationship between sense of coherence, work engagement and organisational commitment.

1.3.2 Specific aims

The specific theoretical aims of the research are:

1. To conceptualise sense of coherence, work engagement and organisational commitment.
2. To establish the theoretical relationships (if any) between sense of coherence, work engagement and organisational commitment.

The specific empirical aims of the research are:

1. To determine the levels of sense of coherence, work engagement and organisational commitment in the sample group.
2. To determine the relationships (if any) between sense of coherence, work engagement and organisational commitment.
3. To establish if biographical variables (gender and region) report different levels of sense of coherence, work engagement and organisational commitment.
4. To establish if sense of coherence can be viewed as a predictor for work engagement.

5. To determine if sense of coherence can be viewed as a predictor for organisational commitment.
6. To initiate recommendations on the basis of the research findings and to stimulate future research.

1.4 PARADIGM PERSPECTIVE

1.4.1 Relevant psychological paradigms

The literature is based on three key paradigms.

1.4.1.1 Positive psychology paradigm

Positive psychology is associated with enhancing optimal human functioning. It specifically aims at focusing on positive aspects of human behaviour rather than the negative. It incorporates wellbeing through the enhancement of human strength and resilience to achieve optimal functioning in one's life (Bergh, 2006). Seligman and Csikszentmihalyi (2000, p. 5) report that positive psychology at a subjective level is about wellbeing, contentment, satisfaction, hope, optimism, flow and happiness. On an individual level, it encapsulates love, courage, interpersonal skill, sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent and wisdom (Seligman & Csikszentmihalyi, 2000, p. 5). They add that the group level is about civic virtues, better citizenship, responsibility, nurturance, altruism, civility, moderation, tolerance and – importantly – work ethic (Seligman & Csikszentmihalyi, 2000, p. 5). Strümpfer (2005, p. 35) attempts to integrate the work of his predecessors by focusing on personal growth, the socialisation process and spirituality/religiousness. The basic behavioural assumptions of this paradigm purports that stress is universal but that reaction, coping styles and general resistance resources differ from individual to individual (Cilliers & Coetzee, 2003). The fundamental question that arises is: Why (despite the same obstacles, setbacks, difficulties or limitations) do some individuals cope

triumphantly while others struggle? This paradigm is applicable to this study because it seeks to understand optimal human functioning by examining different coping behaviours and styles in an attempt to gain insight in coping differences.

1.4.1.2 Salutogenic paradigm

Antonovsky (1996, p.13) viewed the salutogenic orientation as the “study of strengths and the weaknesses of promotive, preventive, curative and rehabilitative ideas and practices”. Salutogenesis is also referred to as the origins of health (Antonovsky, 1996). Antonovsky (1996) regarded general resistance resources as the instrument to combat and ward off stress. Salutogenic constructs are aimed at understanding how people are able to cope despite the myriad stressors around them (May, 2006). In addition, salutogenesis is fundamentally concerned with maintaining and enhancing wellness and preventing and treating illness (Strümpfer, 1990). Sense of coherence as a construct emerged from salutogenesis as an important element in projecting the movement toward health. The behavioural assumption of an individual with a strong sense of coherence results in cognitive sense, order and structure, predictability, perceiving work experiences and challenges as bearable, and embracing challenges as worthy investments (Strümpfer, 1990). This paradigm is applicable to this study because sense of coherence is a core construct of salutogenesis; it explores different coping abilities, enhancement of strengths and positive work experiences.

1.4.1.3 Functionalist paradigm

The functionalist paradigm is based on the assumption that society has a concrete, real existence and a structured tendency to result in an ordered and regulated state of affairs (Morgan, 1980). Functionalism focuses on the functions and dynamics of psychological processes (Meyer, Moore & Viljoen, 1992). It represents a view that is firmly rooted in the sociology of regulation and approaches its subject matter from an objectivist perspective (Davidson, 2003). In addition to being regulatory, the functionalist perspective is pragmatic and concerned with understanding society in a manner that

produces useful empirical knowledge (Morgan, 1980). The functionalist paradigm generates the following empirical functions and advantages (Morgan, 1980):

- Human behaviour is measurable and can be explained and interpreted.
- Behaviour can be quantified.
- The measurement of behaviour is associated with an objective measurement process.

This paradigm is relevant to this study because the empirical investigation is presented according to the functionalist paradigm.

1.4.2 Applicable metatheoretical concepts

The metatheoretical concepts that are relevant to this study are discussed below.

1.4.2.1 Industrial psychology

The research is approached from an industrial organisational perspective, specifically the application of psychological knowledge in understanding individual work behaviour to enhance quality of work life and performance (Bergh, 2006).

According to Schultz and Schultz (1986, p. 8), industrial psychology involves the “application of the methods, facts, and principles of the science of behaviour and mental processes to people at work”. It is viewed as a science that deals with observable fact, verifiable observation, experimentation and experience (Schultz & Schultz, 1986).

The relevant subfields of industrial psychology that is included in this study are organisational behaviour and employee and organisational wellness.

1.4.2.2 Organisational behaviour

Organisational behaviour is the study of human behaviour, attitudes and performance in organisational environments; extracting theory, methods and principles from psychology,

sociology, political science, cultural anthropology to understand more about individuals, groups, structures and processes (Ivancevich, Konopaske & Matteson, 2005). It can be seen as an interdisciplinary field that is focused on better understanding and managing people at work (Kreitner & Kinicki, 1995). It seeks to understand relationships between individuals and groups, and how they react in the organisation; its main aim is descriptive rather than prescriptive (McKenna, 2005).

This subdiscipline is specifically included to explore and explain why individuals behave the way that they do in an organisation. The ability to understand individuals from this perspective contributes significantly to determining what is important to individuals – which ultimately influences stress levels, coping mechanisms, quality of work life and productivity.

1.4.2.3 Employee and organisational wellness

This is the study of psychopathology and occupational mental health. According to May (2006), it focuses on optimal employee and organisational health, factors that can facilitate or hinder work performance, and medical or psychological illnesses that can impair work behaviour. It encapsulates the understanding of etiological factors, various psychological disorders and how they are related to specific work adjustment problems. In addition, it emphasises health promotive behaviours; coping strategies; the development of resilience; and the general enhancement of physical, mental and emotional wellbeing. It is important to understand individuals from this perspective to determine how they differ from each other and cope differently in the workplace, especially in similar circumstances.

1.4.3 Applicable behavioural models and theories

In this study the theoretical models are based on the theory of sense of coherence, work engagement and organisational commitment. It provides the framework in which sense of coherence is explored to determine its relationship to work engagement and organisational commitment. This is validated through the use of quantitative data.

1.4.3.1 Sense of coherence models and theories

The theories and models that are relevant to sense of coherence as researched by Antonovsky (1993a, 1996), Strümpfer (1990), and Wissing and Van Eeden (2002) are explored to provide a significant contribution to the study.

1.4.3.2 Work engagement

The work of Schaufeli et al. (2006), Strümpfer (2003) and Bosman et al. (2005b) are reviewed and added to the theoretical base of the study.

1.4.3.3 Organisational commitment

The theories and models in the research by Allen and Meyer (1990, 1996), Meyer and Allen (1991), and McCaul, Hinsz and McCaul (1995) are studied to gain valuable insight into this study. Together, the above constructs form the foundation on which the study is constructed.

1.4.4 Applicable concepts and constructs

The concepts and constructs that are applicable to this study are indicated below.

1.4.4.1 Sense of coherence

Sense of coherence is one of the key constructs around which this study is built. Antonovsky (1993a) referred to it as a pervasive, enduring feeling of confidence that enables one to draw from available resources to cope with demands and challenges. Sense of coherence can be broken down into the following three concepts.

a) Comprehensibility

Comprehensibility refers to the belief that the challenge is understood (Antonovsky, 1996). It indicates the degree to which an individual experiences stimuli internally and externally as ordered, structured, clear and consistent. On the basis of this, the individual expects stimuli in the future to also be orderable, explicable and predictable (Strümpfer, 1990).

b) Manageability

Manageability refers to the belief that resources to cope are at one's disposal (Antonovsky, 1996; Cilliers & Coetzee, 2003).

c) Meaningfulness

Meaningfulness relates to whether the individual wishes to and is motivated to cope (Antonovsky, 1996), and whether the individual perceives the stimuli as worthy to commit and invest in (Geyer, 1997).

1.4.4.2 Work engagement

Work engagement refers to the positive, fulfilling and work-related state of mind that is characterised by vigour, dedication and absorption (Schaufeli et al., 2006). It is commonly referred to as the opposite of burnout. Its focus is on human strengths, optimal functioning and health promotion as opposed to analysing weaknesses, obstacles or problems. The construct is integrated by the following three concepts.

a) Vigour

Vigour is characterised by high levels of energy and mental resilience, and being sufficiently motivated to invest effort into one's work despite obstacles or adversities (Schaufeli et al., 2006).

b) Dedication

Dedication is characterised by experiencing a sense of significance in one's work, feeling enthusiastic and proud of the job, and being inspired and challenged by it (Schaufeli et al., 2006; Storm & Rothmann, 2003).

c) Absorption

Absorption refers to being completely and happily engrossed in one's work, unable to detach oneself from it and not noticing how quickly time flies (Schaufeli et al., 2006; Storm & Rothmann, 2003).

1.4.4.3 Organisational commitment

Commitment is referred to as the psychological state that is characteristic of the individual's relationship to the organisation and his or her decision to continue or discontinue working for the organisation (Meyer, Allen & Smith, 1993). The construct of commitment is expanded further to include affective, continuance and normative concepts.

a) Affective

The affective concept refers to an individual's emotional attachment to the organisation and his or her identification with and involvement in the organisation (Allen & Meyer, 1990).

b) Continuance

This refers to the cost that employees associate with leaving the organisation (Allen & Meyer, 1990).

c) Normative

The normative concept refers to employees feeling an obligation to remain with the organisation (Allen & Meyer, 1990).

This concludes the discussion on the concepts and constructs that are applicable to this study. This study now moves on to the methodological convictions of the research.

1.4.5 Methodological convictions

Methodological convictions refer to beliefs about the nature of social science and scientific research (Mouton & Marais, 1994). They are often no more than methodological preferences, assumptions and presuppositions about what good research should be. According to Mouton and Marais (1994), there is a direct link between methodological beliefs and the epistemic status of research results which can be traced back to the context of scientific praxis. The methodological convictions that are applicable to this study are described below.

1.4.5.1 Sociological dimension

The sociological dimension emphasises the social nature of research as a typical human activity and positions scientific research as a joint or collaborative effort (Mouton & Marais, 1994). It also focuses on scientists; scientific communities; and what they do, believe and value (Mouton, 2006). Therefore, studying the scientific community and what is important to them reveals insight into the research process (Mouton, 2006). Social research is further aimed at generating knowledge and improving understanding through describing, explaining and evaluating phenomena in the social world (Mouton, 2006). This study is aimed at describing, explaining and evaluating human activity through quantitative analysis and the examination of various relevant research networks.

1.4.5.2 Ontological dimension

Ontology refers to the study of being or reality (Mouton, 2006). The ontological dimension of the research therefore refers to the reality that is being investigated and this reality becomes the research domain of the social sciences (Mouton & Marais, 1994). The research domain can be recognised as humankind in all its diversity – which encompasses human activities, characteristics, institutions, behaviour and products (Mouton & Marais, 1994). This study focuses on the measurement of human characteristics, behaviour and emotional responses in an automotive development institution.

1.4.5.3 Teleological dimension

The teleological dimension refers to the fact that social science, essentially a human activity, is goal driven (Mouton & Marias, 1994). Theoretical goals are exploratory, descriptive and explanatory, and seek to understand human behaviour better in order to gain insight into social reality (Mouton & Marais, 1994). Practical goals include providing information, diagnosing and solving problems, planning and monitoring programmes of assistance to improve quality of life (Mouton & Marais, 1994). The

theoretical goal of this study is to determine the relationship (if any) between sense of coherence, work engagement and organisational commitment in an automotive development institution. The practical goals are to provide valuable information to assist employees and employers to improve the quality of work life and production. It also seeks to advance the field of industrial and organisational psychology by contributing to the body of current knowledge.

1.4.5.4 Epistemological dimension

The epistemological dimension is driven by the search for the truth or truthful knowledge (Mouton, 2006). This dimension therefore strives for validity, demonstrability, reliability or replicability of research results (Mouton & Marais, 1994). This study endeavours to establish the truth through the application of a good research design and valid quantitative results.

1.4.5.5 Methodological dimension

This dimension refers to the “how” of social sciences research (Mouton & Marais, 1994). It can be defined as the logic of applying scientific methods in the study of reality (Mouton & Marais, 1994). In view of the fact that researchers are fundamentally concerned with generating the truth, they are committed to the use of objective methods and procedures to enhance research validity (Mouton, 2006). This study undertakes to collect data through the use of questionnaires; data analysis is achieved through statistical analysis and inference through data interpretation and inductive reasoning.

1.4.6 Central hypothesis

The central hypothesis is stated as follows:

There is a relationship between sense of coherence, work engagement and organisational commitment among employees in the automotive development institution.

1.5 RESEARCH DESIGN

1.5.1 Research variables

The independent variable refers to the antecedent phenomenon and the dependent variable refers to the consequent phenomenon (Mouton & Marais, 1994). The independent variable that is investigated in this study is sense of coherence. The dependent variables are work engagement and organisational commitment. The objective of this research is to determine whether sense of coherence (independent variable) has an effect on work engagement and organisational commitment (dependent variables).

1.5.2 Type of research

A quantitative research design is explored to investigate the research hypothesis. The use of the quantitative method is appropriate because it aims to describe and explain with statistical analysis or measurement (Terre Blanche & Durrheim, 2002a). The hypothesis is clearly stated and is determined by means of measuring instruments. The research is executed to test the hypothesis, which will ultimately be accepted or rejected.

This study is descriptive in nature; it endeavours to establish the relationship between sense of coherence, work engagement and organisational commitment. Descriptive studies are aimed at describing phenomena accurately through narrative-type descriptions, classification or measuring relationships (Terre Blanche & Durrheim, 2002a). Since the aim of this research is to determine the relationship (if any) between sense of coherence, work engagement and organisational commitment, using a descriptive study is appropriate.

1.5.3 Unit of analysis

The objects of investigation are known as the unit of analysis (Terre Blanche & Durrheim, 2002a). The objects of investigation in this study are individuals from an organisation. Sense of coherence, work engagement and organisational commitment are examined on an individual basis and in biographical groups to establish the effect of sense of coherence on engagement and commitment in the organisation.

1.5.4 Methods to ensure reliability and validity

1.5.4.1 Reliability

Reliability is the degree to which the research findings are repeatable; this is applicable to both the subjects' scores on the measures (measurement reliability) and to the outcomes of the study as a whole (Terre Blanche & Durrheim, 2002a). Reliability is also the application of a valid measuring instrument to different groups under different conditions, resulting in the same observation (Mouton & Marais, 1994). The reliability of the observation is influenced by the researcher, the participant, the measuring instrument and the research context or the circumstances under which the study is conducted (Mouton & Marais, 1994). To enhance the reliability of this study, the following control mechanisms have been implemented:

a) Anonymity

The participants who completed the questionnaires were requested not to identify themselves.

b) Intention

A covering letter that explained the purpose of the research and how the results would be used accompanied each questionnaire.

c) Reliability of the measuring instruments

The three measuring instruments that were used to collect the data complied with stringent validity and reliability requirements.

d) Construct and measuring instrument replication

The constructs in this study were measured with the same instruments that had been used successfully in previous studies.

1.5.4.2 *Validity*

Validity refers to the degree to which the research conclusions are sound (Terre Blanche & Durrheim, 2002a). This includes the internal and external validity, measurement and, interpretative and statistical validity. The validity of this study will be ensured through the following:

- The effective planning and structure of the research design to ensure the eventual validity of the research findings.
- Ensuring that the selected constructs for the study are valid, appropriate and applicable.
- Using measuring instruments that are accurate and appropriate.
- Conducting appropriate and accurate data analysis.
- Ensuring reliable data in order to facilitate the extraction of valid conclusions.

- Generalisations that are based on the data and context of this study to broader populations and settings should be approached with caution.
- Given that the size of the sample included in this study is considered small (N = 46), it must be borne in mind that the findings and interpretations be viewed with extreme caution.

1.6 RESEARCH METHOD

1.6.1 Phase 1: Literature review

The literature review is undertaken to establish and conceptualise sense of coherence, work engagement and organisational commitment.

Step 1

Sense of coherence is examined further to include the following three concepts:

- comprehensibility
- manageability
- meaningfulness

Step 2

Work engagement is discussed to include:

- vigour
- dedication
- absorption

Step 3

Organisational commitment is further conceptualised in order to explain the

- affective concept
- continuance concept
- normative concept

Step 4

A theoretical integration of sense of coherence, work engagement and organisational commitment follows in order to determine the relationship between these three constructs. In addition to this, the literature review explores other research in this domain to establish what other researchers have done, what their findings were, and if there are any trends or patterns.

1.6.2 Phase 2: Empirical study

1.6.2.1 Step 1 – Population and sample

The sample was drawn in an automotive development institution. A copy of the questionnaire, together with a letter from the CEO of the organisation that explained the organisation's interest in the study, was sent to all the employees. All the staff were invited to participate in the study. Because the organisation is a small one with a small staff complement (n=46) (as at 31 July 2008), 100% of the population was included in the sample. As a sample of 46 (n =46) is considered small, it is reiterated that the findings and interpretations of the study be viewed with caution.

1.6.2.2 Step 2 – Measuring instruments

Three measuring instruments were used to collect the data. They were the Orientation to Life Questionnaire (OLQ) (Antonovsky, 1987) that was used to measure sense of coherence, the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2004) that was used to measure work engagement and the Organisational Commitment Scale (Meyer & Allen, 1991) that was used to measure organisational commitment. A biographical questionnaire was also administered.

1.6.2.3 Step 3 – Data collection

The human resources manager of the company undertook to distribute and collect all the questionnaires. The questionnaires explained the purpose of the research, the confidentiality of the information and the ethical use of the data clearly. Although the CEO of the organisation encouraged all the employees to participate, completing the questionnaires was voluntary. The completed questionnaires were returned to the human resources manager.

1.6.2.4 Step 4 – Data processing

The questionnaires were collected, captured electronically and transformed through coding into a meaningful, useable format. The data was then analysed through descriptive and inferential statistics. The SPSS (Statistical Package for the Social Sciences, 2008) programme was used to analyse the data.

The descriptive statistics sought to reveal the distribution of biographical data, means, standard deviations and descriptive interpretation of the data. The reliability of the three measuring instruments was assessed through Cronbach alpha coefficients and inter-item correlation coefficients. Spearman's rho was used to indicate the relationships between the three constructs. The data was explored further to establish how sense of coherence impacts on work engagement and organisational commitment. This was determined

through the use of a forward stepwise multiple regression analysis which indicated the proportion of variance in the dependent variables (work engagement and organisational commitment) that was predicted by the independent variable (sense of coherence). Non-parametric tests have been used to determine the differences between biographical variables such as gender and region, to establish how individuals in these groups performed when measured against levels of sense of coherence, work engagement and organisational commitment.

1.6.2.5 Step 5: Hypotheses

To operationalise the research, hypotheses were formulated from the central hypothesis in order to test whether a relationship existed between sense of coherence, work engagement and organisational commitment.

1.6.2.6 Step 6: Results

The statistical data were examined and analysed to facilitate inductive reasoning and to draw conclusions from it. The results are reflected on graphs and tables that indicate the relevant figures from which interpretations can be made.

1.6.3 Phase 3: Conclusions, limitations and recommendations

1.6.3.1 Conclusions

The conclusions reveal that, based on the research findings, the aims of the study have been achieved.

1.6.3.2 Limitations

The limitations that impacted on the study are presented.

1.6.3.3 Recommendations

Recommendations are provided in relation to answering the research questions and solving the stated problems. Recommendations for future research in this field are also made.

1.7 CHAPTER DIVISION

The chapter divisions of the research study are as follow:

Chapter 2: Literature review

The aim of this chapter is to provide a theoretical background to sense of coherence, work engagement and organisational commitment. These constructs are historically examined and clearly defined, and an attempt is made to demonstrate how they developed over time and how they are currently being applied. This chapter also gives a theoretical integration of how these three constructs are related.

Chapter 3: Empirical study

This chapter describes the empirical procedure in terms of the research sample, measuring instruments, administration of the questionnaire, data collection and processing, statistical methods and formulation of the research hypothesis.

Chapter 4: Results

This chapter focuses on testing the research hypothesis by reporting and interpreting the results.

Chapter 5: Conclusions, limitations and recommendations

Conclusions are drawn in terms of the specific aims of the research. The limitations that were experienced with the study are revealed. Recommendations are presented.

1.8 SUMMARY OF CHAPTER

As has already been stated, the purpose of this study is to determine if a relationship exists between sense of coherence, work engagement and organisational commitment in an automotive development institution. This chapter began with a brief introduction and gave a motivation for and the problem statement of the research. The research aims were explained, followed by the relevant paradigm perspectives, research design, research method and the division of chapters.

Chapter 2 focuses on the literature review and conceptualising sense of coherence, work engagement and organisational commitment.

CHAPTER 2: LITERATURE REVIEW

The purpose of this chapter is to conceptualise sense of coherence, work engagement and organisational commitment by examining existing research and literature. In addition, the development, defining characteristics, and applications that are relevant to sense of coherence, work engagement and organisational commitment are explored. This chapter ends with a theoretical integration of the three constructs and a summary of the chapter.

2.1 SENSE OF COHERENCE

2.1.1 Development of sense of coherence

The humble beginnings of sense of coherence dates back to 1979 when Antonovsky (1979) presented a model to enhance an understanding of stressors, coping and health. The model essentially emphasised the limitations of the pathogenic perspective in understanding illness (Antonovsky, 1979; 1993a). This gave rise to the emergence of the salutogenic orientation that was aimed at revealing the secrets of the healthy end of the health ease/disease continuum (Antonovsky, 1993a; 1996). Antonovsky continued to ponder over variables such as wealth, ego, strength, cultural stability and social support in order to determine what these resources had in common and, more especially, to establish how and why they promoted health (Antonovsky, 1993a). The answer came to him as the birth of sense of coherence, which represented the resources that facilitated successful coping and health promotion.

2.1.2 Definition of sense of coherence

Antonovsky (1993a, p. 725) defined sense of coherence as follows:

A global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that:

- The stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable;
- The resources are available to one to meet the demands posed by these stimuli; and
- These demands are challenges, worthy of investment and engagement.

In keeping with this definition, the the Pocket Oxford English Dictionary defines "sense" as "any of the special powers (sight, hearing, smell, taste, touch) by which a living thing becomes aware of the external world; the ability to perceive or be conscious of a thing; practical wisdom; meaning" (Allen, 1990, p. 681). It defines "cohere" as "to stick together, remain united (of reasoning), to be logical or consistent" (Allen, 1990, p. 136). Sense of coherence can therefore be defined as the ability to exercise special powers to consciously "keep it together" through logical and consistent thoughts and reasoning.

Rothmann et al. (2003) hold a similar view and define sense of coherence as a coping mechanism that tends to moderate life stress through influencing one's cognitive and emotional stimuli. Johnson (2004) shares this view and defines sense of coherence as an orientation to one's life that is indicative of ones's confidence, self-esteem and control in approaching life events as challenging and effectively engaging internal resources to cope with difficulties or uncertainty.

Sense of coherence provides a comprehensive perspective on how individuals cope effectively resulting in enhanced health, increased social adjustment and improved wellbeing. Sense of coherence comprises three important concepts, namely comprehensibility, manageability and meaningfulness (Antonovsky, 1993a). As opposed to taking a negative view, sense of coherence aims at reflecting an orientation that is positive, enduring, pervasive, predictable, and worthy of investment and engagement (Antonovsky, 1993a). Individuals who exhibit a strong sense of coherence are therefore more likely to experience a given situation as challenging and stimulating rather than

dangerous, unpredictable or uncontrollable (Geyer, 1997). In addition, when individuals score high on comprehensibility, manageability and meaningfulness, they are regarded as having a strong sense of coherence; when they rate low on these three elements, they are regarded as having a weak sense of coherence. For the purposes of this study, the following definition (derived from Antonovsky's [1993a] sense of coherence) is adopted: Sense of coherence refers to an orientation to life – one which reflects a dynamic feeling of confidence that stimuli within one's environment is structured, predictable and explicable; that resources are available to meet any challenge; and that demands are challenges that are worthy of investment and engagement.

2.1.3 Concepts of sense of coherence

Antonovsky's (1993a) sense of coherence was built on three foundational concepts, namely comprehensibility, manageability and meaningfulness.

2.1.3.1 Comprehensibility

The individual sees the world as “rational, understandable, structured, ordered, consistent and predictable” and in doing so is able to make cognitive sense of his or her environment (Antonovsky, 1987). Comprehensibility is also one's strength in perceiving internal and external information as ordered, organised and consistent (Rothmann et al., 2003; Geyer, 1997). This efficacious perspective brings with it a sense of confidence and controlability in one's environment.

2.1.3.2 Manageability

Manageability refers to a person's perception that resources are available to manage the demands of stimuli (Antonovsky, 1996; Almedom, Tesfamichael, Mohammed, Mascie-Taylor & Alemu, 2006; Coetzee & Cilliers, 2001; Geyer, 1997). The individual believes and is confident that whatever the imposing demands of life, he or she is able to cope

with it and assistance (should he or she requires it) is readily available. The available resources might be under the control of legitimate others who have the power to resolve matters that relate to the individual, for example a spouse, relatives, friends, a doctor, leaders, a trade union, a political party or god (Strümpfer, 1990).

2.1.3.3 Meaningfulness

Meaningfulness refers to feelings that life makes sense emotionally, perceiving stimuli as motivating and significant, and embracing challenges as worthy engagements (Antonovsky, 1987; Geyer, 1997; Strümpfer, 2003). The individual feels that at least some of life's problems and obstacles can be viewed as welcome challenges that encourage and motivate one to invest time and energy. The individual therefore plays an important role in how he or she perceives his or her daily experiences. By embracing daily experiences as challenges, the individual welcomes them and perceives them as making emotional sense; he or she is encouraged and motivated to engage and invest in them. Hence the individual shapes and paints his or her daily experiences, future and destiny.

Comprehensibility, manageability and meaningfulness are fundamental concepts in exploring sense of coherence. They play a crucial role in this study because they reveal the degree of the individual's ability to cope, his or her cognitive and emotional strength, and a positive approach to environmental stimuli. Because sense of coherence is built upon these three concepts, it is imperative to examine each of them intensively.

2.1.4 Characteristics of sense of coherence

Antonovsky (1993a) purported that the construct sense of coherence is universally meaningful and has the ability to cut across gender, social class, religion and culture. It does not only refer to a specific type of coping strategy, but also to factors that have a common basis for successfully coping with stressors in all cultures. General resistance

resources (GRRs) are also known to play a significant role in the successful development of sense of coherence (Antonovsky, 1979; Strümpfer, 1990; Volanen, Lahelma, Silventoinen & Suominen, 2004). These resistance resources shape life experiences, contribute to consistency, influence outcomes and maintain balance. These experiences are intimately related to the three core elements of comprehensibility, manageability and meaningfulness, which emerge to foster a strong sense of coherence (Volanen et al., 2004). Some of the most important general resistance resources include childhood living conditions, education, wealth, ego identity, general coping strategies, work-related factors and social support (Antonovsky, 1993a; Volanen et al., 2004; Strümpfer, 1990). The obvious implication is therefore that the more resistance resources one possesses, the greater the chance of a strong sense of coherence.

Sense of coherence is strongly correlated with measures of somatic and psychological health (Morrison & Clift, 2006; Volanen et al., 2004) and reflects the quality of one's life in the form of internal resources, replacing difficulty and uncertainty with adaptive coping (Johnson, 2004). It facilitates successful maintenance of personal balance and health despite stress-related obstacles, environmental stimuli and threats (Geyer, 1997). It means that one interprets one's environment as less stressful, less disturbing and less disorganised, and perceives external threats and demands as worthy challenges (Antonovsky, 1987). In doing so, one experiences environmental stimuli as sufficiently structured to enable one to anticipate events and deploy the resources that are required to adequately meet the demands which are imposed on them (Feldt, Kivimäki, Rantala & Tolvanen, 2004). Sense of coherence is therefore the cumulative result of general resistance resources that maintains smooth control and balance of daily activities and is capable of changing into a higher gear when coping is required or when environmental threats are detected. Individuals with a higher sense of coherence are able to cope better with setbacks, obstacles or challenges (as opposed to individuals with less developed levels of sense of coherence).

The opposite of sense of coherence is poor mental health, illness and disease which understandably reflects a picture of complex interaction of brain functioning,

environmental influences and genetics. Genetic influences are implicated in a wide range of psychological disorders that includes depression and personality disorders. Nevid, Rathus and Greene (2003) confirm that genetics play a direct causative role in Alzheimer's Disease and that genetic predisposition, combined with stressful environmental interaction, leads to the development of schizophrenia. If genetics can be directly responsible for the development of psychological disorders and mental illness, it raises one's curiosity as to whether it can positively influence mental health and general wellbeing. Clinical researchers Nevid et al, (2003) believe that progress in developing effective programmes in the mental health field has been very slow in view of the fact that the field of study lacks critical knowledge on the underlying causes of mental disorders. Antonovsky (1996) confirmed that a progressive development of programmes which is guided by the sense of coherence construct and designed to strengthen comprehensibility, manageability and meaningfulness in enhancing and improving health is required. Morrison and Clift's (2006) study on the possible health-related benefits of involvement in a supported education programme for people with long-term mental health needs that explored Antonovsky's salutogenic model of health supports the above view and has revealed interesting results. Regardless of Antonovsky's (1987) assertion that the strength of one's sense of coherence is fully developed or stabilised around the age of 30 and that an individual's weak sense of coherence in adulthood will result in progressive deteriorating health and weakening sense of coherence, Morrison and Clift (2006) found that despite having a weak sense of coherence, individuals can become stronger and improve their position on the health/disease continuum. What is important is the maturity of an individual's sense of coherence score (which indicates the possibility of strengthening one's sense of coherence) rather than age (Morrison & Clift, 2006).

2.1.5 Application of sense of coherence

High levels of sense of coherence is not only associated with increased levels of job satisfaction but also presents more positive experiences regarding how individuals perceive and perform their work (Strümpfer, 2003; Feldt et al., 2004). A developed sense of coherence tends to have the following impact on individuals (Strümpfer, 1990):

- The ability to make cognitive sense of the workplace and perceive its stimulation as clear, ordered, structured, consistent and predictable.
- Individuals perceive their work as consisting of experiences that are bearable and with which they can cope, and as challenges which they can meet by availing themselves of personal resources and/or resources that are under the control of legitimate others.
- The ability to make emotional and motivational sense of work demands as welcome challenges that are worthy of engaging and investing their energies in.

A favourable work environment that fosters high job control, social support, career development, et cetera improves sense of coherence (Feldt et al., 2004) and is therefore conducive to the development and expression of the construct. Such an orientation towards work ultimately leads to improvement in performance, efficiency, recognition, rewards and promotion – eventually becoming work-related general resistance resources that will further enhance the sense of coherence (Strümpfer, 1990). The implications of the above in promoting occupational health and employee wellbeing therefore become obvious and make sense of coherence more difficult to ignore in the workplace.

In addition to this, a strong sense of coherence is directly related to the successful maintenance of personal balance and health despite stressful events (Geyer, 1997; Johnson, 2004); work and career effectiveness; and improved marital, parental and other relationships (Strümpfer, 1995). On a wider scale, this adaptive ability permeates through community involvement, religious expression, and economic and political functioning (Strümpfer, 1995).

The use of this construct in this instance is justified because the organisation that was studied is geared towards recruiting talent with mental and emotional strength, providing employee support, encouraging occupational health and employee wellness, stimulating independent career development and setting high standards of performance excellence. There is therefore an appropriate fit between this construct and the organisation's needs.

2.2 WORK ENGAGEMENT

2.2.1 Development of work engagement

In recent years there has been a shift in focus away from the traditional pathogenic paradigm (Coetzee & Cilliers, 2001; Strümpfer, 1990) to studying and understanding behaviour through psychological wellbeing (Coetzee & Cilliers, 2001), health promotion (Antonovsky, 1996) and positive psychology (the scientific study of human strength and optimal functioning) (Seligman & Csikszentmihalyi, 2000). The field of industrial and organisational psychology therefore saw a gradual shift from the negative study of burnout, stress, insecurity, substance abuse, et cetera to focusing more on positive concepts such as job satisfaction, organisational commitment, organisational citizenship behaviour and intrinsic motivation (Rothmann, 2003). One of these positive states is work engagement which is considered to be the antithesis of burnout (Schaufeli et al., 2006). To date, little attention has been paid to engagement – although this is gradually changing. Since engagement is currently being viewed as the opposite of burnout, the concept is attracting much attention, especially from burnout experts.

2.2.2 Definition of work engagement

Engagement can be defined as a positive, fulfilling and work-related state of mind that characteristically has three components, namely vigour, dedication and absorption (Schaufeli, Martinez, Pinto, Salanova & Bakker, 2002).

Coetzee and Roythorne-Jacobs (2007, p. 54) provide the following definition:

A positive, fulfilling, work-related state of mind that is characterised by high levels of energy and mental resilience while working; the willingness to invest effort in one's work; persistence even in the face of difficulties; feeling enthusiastic and proud about

one's job; feeling inspired and challenged by one's job, being happily immersed in one's work.

Engagement is also seen as the “persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour” (Schaufeli & Bakker 2004, p. 294) and an “energetic state in which the employee is dedicated to excellent performance at work and is confident of his or her effectiveness” (Schutte, Toppinen, Kalimo & Schaufeli, 2000, p. 54). Kahn (1990, p. 694) defines engagement as “the harnessing of organisation members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances”.

Engaged employees have an energetic and affective connection with their work activities and see themselves as able to deal completely with the demands of their jobs (Schaufeli, Salanova, González-Roma & Bakker, 2002).

The above definitions give a fairly composite view of work engagement. They indicate that work engagement is a positivistic, mentally enduring state that enables resilience, inspiration, happiness or confidence. Work engagement comprises of three concepts, namely vigour, dedication and absorption. According to Saks (2006), individuals with high levels of work engagement are more likely to experience job satisfaction, organisational commitment and organisational citizenship behaviour. Individuals who score high on vigour, dedication and absorption are regarded as having high levels of work engagement; conversely individuals who score low on these three components are viewed as having lower levels of work engagement. For the purposes of this study, the following definition (a combination of Schaufeli, Martinez, Pinto, Salanova & Bakker's work [2002] and Schaufeli, Salanova, González-Roma & Bakker's work [2002]) is adopted: Work engagement refers to a positive, fulfilling state of mind that is characterised by vigour, dedication and absorption and infuses employees with energy, affective expression and confidence to face any demand.

2.2.3 Concepts of work engagement

Engagement consists of three important concepts, namely vigour, dedication and absorption (Schaufeli et al., 2002a).

2.2.3.1 Vigour

Vigour refers to high levels of energy and mental resilience that relate to work experiences, and enthusiasm to invest effort in one's work and to persist despite being faced with obstacles (Schaufeli et al., 2006). This means that the individual feels motivated, eager and excited about his or her work and will persevere even when setbacks, limitations or challenges arise.

2.2.3.2 Dedication

Dedication is characterised by being deeply involved in one's work and experiencing feelings of significance, enthusiasm, inspiration and challenge (Schaufeli et al., 2006). This refers to individuals becoming happily engulfed in their work and feeling that their work is important, meaningful and challenging.

2.2.3.3 Absorption

Absorption refers to being content and completely focused on one's work, to the extent that time elapses quickly (Schaufeli et al., 2006). The individual is immersed in his or her work to the point that he or she is reluctant to stop working. This usually occurs when one enjoys what one does.

Work engagement is built around the concepts of vigour, dedication and absorption. All three these concepts therefore play an important role in this study because they encapsulate employees' attitudes and experiences regarding their work.

2.2.4 Characteristics of work engagement

Work engagement is the extent to which an individual is attentive and absorbed in the performance of his or her work. Rothmann (2003) asserts that engagement is characterised by energy, involvement and efficacy. Engaged individuals have an energetic and effective connection with their work activities and they see themselves as capable of dealing adequately with the demands of their jobs (Schaufeli et al., 2006). Work engagement facilitates how individuals perform their jobs and involves the active use of emotions, behaviours and cognitions (Saks, 2006). It is the expression and employment of the person's self in his or her work that promote links to the work and to others and also personal presence (physical, cognitive and emotional) (Kahn, 1990). This means that personal energy is driven into physical, cognitive and emotional situations. People who are engaged can maintain themselves in roles without compromising one role for another. Engaged individuals are physically involved in their work; cognitively aware of and emotionally connected to others; and reflect their thinking and feelings, their beliefs and values, and their creativity (Kahn, 1990).

2.2.5 Application of work engagement

Work engagement is associated with sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work (Saks, 2006).

According to Kahn (1990), there are three psychological conditions that are associated with engagement or disengagement, namely meaningfulness, safety and availability. This means that work situations that offer more psychological meaningfulness and psychological safety ensure psychological availability and result in more engaged workers. Psychological meaningfulness is associated with an individual's work that is perceived as challenging, clearly delineated, varied, creative and somewhat autonomous (Kahn, 1990). Psychological safety refers to situations that promote support and trust, and where individuals are allowed to try and fail without fear of being victimised or

penalised. Psychological availability is the readiness to engage confidently because one has the necessary physical, emotional or psychological resources that are required by the situation (Kahn, 1990). People will therefore immerse themselves in their work depending on how well they cope with various work and non-work commitments.

The use of this construct in this study is appropriate because the organisation involved is keen to establish and understand employee attitudes to and experiences of work in an attempt to improve and enhance work-related experiences. There is therefore compatibility between this construct and what the organisation hopes to achieve.

2.3 ORGANISATIONAL COMMITMENT

2.3.1 Development of organisational commitment

Since the 1960s, organisational commitment continues to be one of the most topical concepts for managers, researchers (Suliman & Iles, 2000) and corporate stakeholders globally. The 1980s and 1990s were no different and commitment was the subject of further study and research. Increasingly, current studies and research with a positivistic perspective have improved the understanding of and have boosted the attention that is given to organisational commitment (Mckenna, 2005). What is common in the majority of studies is the realisation that employees who are strongly committed are less likely to leave their organisation (Allen & Meyer, 1990). Organisational commitment has come a long way and is currently holding its own against other influential work-related concepts. Its impact and influence over work outcomes such as turnover (Suliman & Iles, 2000; Allen & Meyer, 1990), job satisfaction (Meyer et al., 1993), job performance and business success (Suliman & Iles, 2000) are unquestionable – thus commanding the recognition and attention it currently has.

2.3.2 Definition of organisational commitment

Allen and Meyer (1996) define organisational commitment as a psychological link between the employee and his or her organisation which makes it less likely that the employee will voluntarily leave the organisation. A previous definition by Allen and Meyer (1990) reflects three general themes: affective attachment refers to emotional attachment to, identification with and involvement in the organisation; the continuance dimension refers to commitment that is based on the costs which the employee associates with leaving the organisation; and the normative component refers to the employee's feelings of obligation to remain with the organisation. McCaul et al. (1995) define organisational commitment simply as a "global attitude that employees have toward the organisation, as an affective and evaluative reaction toward the organisation". Other similar definitions report organisational commitment as a psychological state that reflects an employee's relationship with the organisation (Gautam, Van Dick, Wagner, Upadhyay & Davis, 2005) and has implications in terms of continuing one's membership in the organisation (Sambasivan & Johari, 2003).

The above definitions give a broad view of organisational commitment. It reflects a psychological connection that employees have with their organisation which encourages them to voluntarily remain with their employer. Organisational commitment comprises three concepts, namely affective, continuance and normative commitment. Meyer and Allen (1991) purport that individuals who perform at a high level of proficiency tend to become behaviourally committed to that level of performance and therefore develop a more positive attitude (affective commitment) towards their organisation. Meyer et al. (1993) confirm that affective and normative commitment are negatively correlated with employees' intention to leave and continuance commitment is unrelated to professional activity and on-the-job behaviour. For the purposes of this study, the following definition that has been adapted from Allen and Meyer's (1996) definition is adopted: Organisational commitment is the psychological connection that employees have with their organisation which reflects their relationship with the organisation and indicates their intention to remain with the organisation.

2.3.3 Concepts of organisational commitment

The three important concepts that make up organisational commitment are affective, continuance and normative commitment (Meyer & Allen, 1991).

2.3.3.1 Affective

Affective commitment refers to the individual's emotional attachment, identification with and involvement in the organisation (Meyer & Allen, 1991). This means that employees remain with an organisation because they want to.

2.3.3.2 Continuance

Continuance commitment refers to an awareness of the costs that are associated with leaving the organisation (Allen & Meyer, 1991). Individuals who are associated with the organisation because of continuance commitment therefore remain because they need to.

2.3.3.3 Normative

Normative commitment reflects a feeling of obligation to stay with the organisation (Allen & Meyer, 1990). Individuals who have high levels of normative commitment remain with the organisation because they feel that they ought to.

2.3.4 Characteristics of organisational commitment

Affective commitment refers to emotional attachment to the organisation and is often the result of one's role in relation to organisational goals and values (Sambasivan & Johari,

2003). Continuance commitment refers to the perceived costs that employees associate with leaving an organisation. As such, the fewer choices and alternatives that are available to individuals, the stronger will be their continuance commitment to their current employer (Sambasivan & Johari, 2003). Perceived costs take the form of disinterest in investing time and effort in acquiring non-transferable skills, losing attractive benefits, giving up seniority-based positions, and having to relocate one's family or disrupt one's personal relationships (Meyer & Allen, 1991). Employees only begin to experience continuance commitment when they test the market and realise the potential costs that are associated with leaving. Normative commitment refers to an individual feeling an obligation to remain with the organisation and is often influenced by variables such as cultural or organisational socialisation (Sambasivan & Johari, 2003). Parents can strongly influence the development of normative commitment by stressing and cultivating a mindset of loyalty and allegiance to an employer – a value that is then passed down to their children. Various cultures can emphasise the importance of such qualities. Organisations, too, can subtly communicate to new recruits their preference for loyalty and adherence to their culture (Meyer & Allen, 1991) and by doing so gradually perpetuate the development of normative commitment.

2.3.5 Application of organisational commitment

According to Allen and Meyer (1996), individuals who are committed are less likely to leave the organisation than individuals who are less committed. Committed employees adapt to and accept change and changing conditions more readily than less committed individuals (Suliman & Iles, 2000). Sambasivan and Johari (2003) suggest that committed employees also play an important role in ensuring the successful implementation and execution of policies and plans. Affective commitment is positively correlated with effort and job performance (Meyer & Allen, 1991; Allen & Meyer, 1996). Allen and Meyer's study (1990) showed that commitment is a negative indicator of turnover. Affective commitment is further associated with positive experiences such as satisfaction with the job or training; continuance commitment is related to higher levels of investment to the job and is reflected, for example, in tenure; and normative

commitment is reflected in more positive work experiences and to a general sense of obligation to others (Meyer et al., 1993). Employees with higher affective and normative commitment show more pro-social and citizenship behaviours (Allen & Meyer, 1996). Normative commitment reflects an obligation to remain with the organisation that stems from employee loyalty (Allen & Meyer, 1990). Affective commitment is associated with lower levels of absenteeism (Allen & Meyer, 1996).

The use of this construct in this study is considered appropriate because the organisation in the study had been subjected to a change in leadership that resulted in high turnover and low morale. To gain more insight into the problem and to conceive possible solutions, the organisation chose to improve their understanding of how employees view their job, what their reactions to work are and their job/work-related feelings. The theoretical discussion above therefore confirm an appropriate fit between this construct and the organisation's expectations.

2.4 THEORETICAL INTEGRATION OF SENSE OF COHERENCE, WORK ENGAGEMENT AND ORGANISATIONAL COMMITMENT

Antonovsky (1996) hoped that the salutogenic orientation would provide the much required springboard for the development of a theory that could be exploited by the field of health promotion. He was deeply interested in understanding the movement towards the health pole of the health/ease continuum. His identification of generalised resistance resources such as wealth, ego, strength and cultural stability were labelled as key resources in promoting health (Antonovsky, 1993a). In trying to understand what these GRRs had in common and what was special about them, he discovered that they all encouraged life experiences by assisting individuals to see the world as making sense cognitively, instrumentally and emotionally (Antonovsky, 1996, p. 15). These thoughts ultimately led to the emergence of sense of coherence as “a generalised orientation toward the world which is perceived, on a continuum, as comprehensible, manageable and meaningful” (Antonovsky, 1996, p. 15). The strength of one's sense of coherence, he later revealed, was the fundamental factor in facilitating the movement towards health.

Morrison and Clift (2006), confirm that sense of coherence scores relate to health status: lower scores indicate potential mental health needs and higher scores protect individuals against life events. Wissing and Van Eeden (2002) add that globally sense of coherence, satisfaction with life and affect balance are strong indicators of general psychological wellbeing.

Antonovsky was also deeply interested in how work experiences can strengthen sense of coherence. Since most people spend long periods of time at work, this becomes a significant source of stimulation that craves comprehension, manageability, and meaning (Strümpfer, 1990). As indicated previously, sense of coherence has the reputation of facilitating the following (Antonovsky, 1996): a wish to be motivated to cope (meaningfulness); a belief that the challenge is understood (comprehensibility); a belief that resources to cope are available (manageability).

Feldt et al. (2004) have revealed that perceptions of work characteristics among individuals with a high sense of coherence developed in a more favourable way over a period of time than among individuals with a low sense of coherence. Rothmann (2003) reported that a weak sense of coherence that was compounded with stress, job demands and a lack of coping resources could be associated with burnout. In addition to this, it was found that sense of coherence moderated the effect of job stress on exhaustion. Johnson (2004) adds that sense of coherence has a unique relation to general health and although it strongly reflects affective traits, it also mirrors more dynamic dispositions such as an active self-esteem structure and self-determination.

It should be noted that sense of coherence is not culture bound. This means that different people derive meaning from different sources; they decide individually on appropriate ways to resolve problems; and they seek assistance from varied resources (e.g. family, friends or a supreme being) that differ from culture to culture. These experiences develop a person's sense of coherence over time, and individuals become smarter about how they can deal with situations and the choices that they make. Successes and failures will definitely be associated with these life experiences, but the individual with a high sense

of coherence will always learn from his or her mistakes and not be doomed to repeat them (Antonovsky, 1996).

In view of the strengths of this construct, it is more likely that individuals with a developed level of sense of coherence will be more engaged with their work. Strümpfer (2003) confirms that sense of coherence plays an instrumental role in warding off burnout, recovering from it and strengthening engagement.

Work engagement is another construct which emerged from the gradual shift from studying elements that contribute to disease, illness, stress and other pathologies. Researchers turned their attention from exhaustive studies on what causes illnesses and diseases to what causes people to stay healthy, positive and happy. The rationale of exploring and understanding the dynamics of good health is, of course, to expose and to perpetuate it in order to prevent or reverse illness and to maintain and preserve it to sustain wellbeing. Although work engagement is a relatively new construct, it currently commands much attention because of its positive approach. Hailed as a positive, fulfilling, work-related state of mind, it is also linked to the three components of vigour, dedication and absorption (Schaufeli et al., 2002a). Vigour ensures that the individual feels motivated, eager and excited about his or her work, and will persevere even when setbacks, limitations or challenges arise. Dedication keeps the individual happily engulfed in his or her work and gives him or her the feeling that the work is important, meaningful and challenging. Absorption encourages surrendering to one's work to the point where he or she is reluctant to stop working. This usually occurs when individuals enjoy what they do. A study that was conducted by Saks (2006) found that job and organisation engagement are significantly related to job satisfaction, organisational commitment and organisational citizenship behaviour; they are negatively related to intention to quit.

Bosman et al. (2005b) confirm that individuals who experience job insecurity also experience less work engagement and more exhaustion and disengagement at work. In addition to this, individuals who experience low levels of positive affectivity and high

levels of negative affectivity also experience lower levels of work engagement and higher levels of exhaustion/disengagement. Therefore, individuals who experience sense of coherence and work engagement are more likely to be committed to what they do.

Organisational commitment has been the subject of much interest since the 1960s and is increasingly so today. Like many other constructs in organisational psychology, commitment has been conceptualised, measured and studied in various ways (Allen & Meyer, 1990). Allen and Meyer (1990) report on the three-component model of commitment which consists of commitment as an affective attachment to the organisation (affective commitment), commitment as a perceived cost that is associated with leaving the organisation (continuance commitment) and commitment as an obligation to remain in the organisation (normative commitment). This model holds that commitment is a psychological state that indicates the employee's relationship with the organisation and influences continuing or discontinuing membership in the organisation. Employees with a strong affective commitment usually remain with the organisation because they want to, those with strong continuance commitment remain because they need to and those with strong normative commitment remain because they feel that they ought to.

McKenna's (2005) study on organisational commitment with specific reference to the impact of entrepreneurial owner/management style on the commitment of key managers in small and medium-sized businesses in Singapore revealed interesting results. It reflected a much predicted negative picture of managers as "disengaged, distant and alienated from their organisation", compounded with high levels of staff turnover (McKenna, 2005). Sambasivan and Johari (2003) established that there is a significant relationship between corporate culture and organisational commitment that has implications for human resource development and the motivation of employees. Their study, in which 202 managers from public listed Malaysian companies participated, further revealed that organisational commitment has significant influences on financial performance (Sambasivan & Johari, 2003). Meyer, Srinivas, Lal and Topolnytsky (2007) conducted two studies: The first examined the relationship between employee commitment and level of support across time for a strategic initiative that was undertaken

by a Canadian utility company in response to deregulation. The second study tested a sample of managers in an Indian organisation that was undergoing major restructuring. Both studies confirmed support for the relations between commitment and support as predicted by the three-component model. While the researcher of the current study could not find research that is directly related to the relationship between sense of coherence, work engagement and organisational commitment, it is expected that individuals with a strong sense of coherence will report high levels of work engagement and high levels of organisational commitment.

In summary, the integrated theoretical line of reasoning in this research is as follows:

Sense of coherence enables individuals to cognitively understand the demands in their environment, to confidently embrace challenges in an emotionally mature way, and to effectively mobilise resources and assistance to manage any environmental demand. When the individual enjoys this level of confidence and control, he or she experiences higher levels of mental resilience and energy and perceives work as positive, fulfilling, challenging, inspiring and engaging. This level of work enjoyment flows into the psychological connection that employees have with their employers, reflecting the status of their membership and their intention to voluntarily remain with the organisation.

In terms of the above arguments and in line with the stated hypothesis of this study, it is expected that sense of coherence will correlate positively with work engagement and organisational commitment.

2.5 SUMMARY OF CHAPTER

The constructs sense of coherence, work engagement and organisational commitment were conceptualised in this chapter. Studies that were undertaken by other researchers and possible relationships between these constructs were explored. The first research aim of this study (that is, to conceptualise sense of coherence, work engagement and

organisational commitment, and to establish the theoretical relationships between them) has therefore been achieved. This concludes the literature review.

The empirical study follows in chapter 3.

CHAPTER 3: EMPIRICAL STUDY

This chapter discusses and explains the empirical study. It specifically explains the population sample in terms of size and representation in the organisation. It further expounds the measuring instruments, the reasons for choosing them and the psychometric robustness of each instrument. The data collection process is described, more details about the data processing are provided and the formulation of the hypothesis is clarified.

3.1 POPULATION AND SAMPLE

The research was conducted in an automotive development institution. The population of this study (on 31 July 2008) consisted of 46 employees (n=46). Because this is a small organisation, the sample included all the employees – therefore 100% of the population. Of the 46 employees, 37 (100%) were based at the Pretoria office and nine (100%) were based at the Eastern Cape office. Participants also completed a biographical questionnaire. In view of the fact that the sample included in this study is considered to be small, the findings, interpretations and generations based on the study must be approached with caution.

The average age of the participants in the sample ranged from 21 to 35 years. The participants indicated that they had a high level of post-matric, undergraduate and postgraduate training. Most of the participants (39,13%) were with the company for less than a year and 50% of them were in their current positions for less than a year. The sample was split between 43,48% males and 56,52% females. More than half of the employees were married (57%). The organisation had 41% black, 37% white, 11% Asian and 9% coloured representation.

More detailed information supporting biographical data will be provided in section 4.1 of chapter 4.

3.2 MEASURING INSTRUMENTS

Four measuring instruments were used, namely the Orientation to Life Questionnaire (OLQ) (Antonovsky, 1987), the Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2006) and the Organisational Commitment Scale (OCS) (Meyer & Allen, 1991). A biographical questionnaire was also administered.

3.2.1 Orientation to Life Questionnaire (OLQ)

The development, rationale, aim, dimensions, administration, interpretation, reliability, validity and justification for use of this measuring instrument will now be discussed.

3.2.1.1 Development

The OLQ was developed by Antonovsky (1987) on the basis of the sense of coherence construct. The design of the scale was guided by Guttman's facet theory (Antonovsky, 1993a). Antonovsky deliberately chose to have "each scale item includes four facets which describe a stimulus and a fifth, the SOC facet, which expresses either comprehensibility, manageability or meaningfulness" (Antonovsky, 1993a). From this intention, the 29-item Sense of Coherence scale (SOC-29) and a 13-item short form of the scale (SOC-13) emerged (Strümpfer & Mlonzi, 2001). Respondents are required to make a choice from a seven-point semantic differential scale with two anchoring phrases (Antonovsky, 1993a). Antonovsky (1993a) emphasised that the three components should not be viewed as distinct constructs because the scale was developed to measure global orientation which is sense of coherence, comprising meaningfulness, comprehensibility and manageability. The questionnaire has since enjoyed much attention and interest and has been applied widely (Frenz, Carey & Jorgensen, 1993). The English version of the scale has been translated into at least 14 other languages (Feldt & Rasku, 1998).

3.2.1.2 *Rationale*

The rationale for this questionnaire is that it operationalises Antonovsky's sense of coherence construct and measures it as a global orientation (Antonovsky, 1993b). As indicated previously, a strong sense of coherence is associated with effective coping, reduced stress (Frenz et al., 1993), lower levels of illness producing manifestations, resulting in more health-enhancing behaviours, increased social adjustment and improved wellbeing (Strümpfer & Mlonzi, 2001). Conversely, lower levels of sense of coherence are less likely to manifest in pervasive, enduring feelings of confidence; perceptions of environments as structured, predictable or explicable; unwavering belief in available resources; and accepting demands as challenges that are worthy of investment and engagement (Antonovsky, 1993a). Individuals who operate with higher levels of sense of coherence are also more likely to be engaged and committed to their work. The inclusion of this questionnaire in this study therefore improves our understanding of individuals from a personal and emotional perspective, providing opportunities to enhance individual and organisational health and wellbeing. In addition, it reveals practical benefits that relate to future recruitment, training and development, and coaching and mentoring.

3.2.1.3 *Aim*

The OLQ was developed by means of a facet theoretical design to operationalise the sense of coherence construct and to provide a way of testing the hypothesis that one's inner and outer environments significantly determine one's location and movement on the health ease/disease continuum (Antonovsky, 1993a). The scale is constructed to measure the extent to which an individual experiences a pervasive, enduring feeling of confidence that (Antonovsky, 1993a, p. 725)

- the stimuli in his or her environment are structured, predictable and explicable (comprehensibility)
- resources are available to meet the demands posed by these stimuli (manageability), and

- these demands and challenges are worthy of engagement and investment (meaningfulness)

The aim of the OLQ in this study is to measure levels of comprehensibility, manageability and meaningfulness in order to give a comprehensive score of sense of coherence and to facilitate the testing of the hypothesis in this study.

3.2.1.4 Dimensions

The SOC questionnaire consists of 29 five-facet items in a seven-point Likert scale format (Antonovsky, 1993a). It measures 11 comprehensibility, ten manageability and eight meaningfulness items. 13 of the items are constructed negatively and have to be reversed in the scoring process (Antonovsky, 1993a). The scale allows for the use of a short form of just 13 items (SOC-13) (Antonovsky, 1993a). The three core concepts can be defined as follows:

a) Comprehensibility

Comprehensibility refers to the belief that the challenge is understood (Antonovsky, 1996). It indicates the degree to which an individual experiences stimuli internally and externally as ordered, structured, clear and consistent; on the basis of this, the individual expects stimuli in the future to also be orderable, explicable and predictable (Strümpfer, 1990).

b) Manageability

Manageability refers to the belief that resources to cope are at one's disposal (Antonovsky, 1996; Cilliers & Coetzee, 2003). It therefore refers to the individual's perception that experiences are bearable, that he or she can cope with it and that challenges can be embraced (Strümpfer, 1990). The individual is confident that he or she can summon the necessary resources to resolve issues.

c) Meaningfulness

Meaningfulness relates to whether the individual wishes to and is motivated to cope (Antonovsky, 1996), and whether he or she perceives the stimuli as worthy to commit and invest in (Geyer, 1997). It reveals the extent to which the individual perceives emotional sense (Strümpfer, 1990); to perceive problems and setbacks as challenges worthy of engaging and investing energy in (Cilliers, 2001).

3.2.1.5 Administration

The OLQ is a self-report questionnaire that can be administered in groups or individually. It takes approximately 15 to 20 minutes to complete and has no time limits. 13 items on the questionnaire were reverse scored to avoid a response set bias (Frenz et al., 1993). The total score is reflected in the sum of the three subscales and the sense of coherence is represented as a single score.

3.2.1.6 Interpretation

The total score reflects the individual's level of sense of coherence. The highest obtainable score is 203 (Frenz et al., 1993). The three concepts (namely comprehensibility, manageability and meaningfulness) provide a profile of the respondent's sense of coherence. Respondents with high scores reflect high levels of sense of coherence and respondents with low scores reflect low levels of sense of coherence. Similarly, respondents with high levels of sense of coherence tend to score higher on the questionnaire and respondents with low levels tend to obtain lower scores.

3.2.1.7 Reliability and validity

The high levels of Cronbach alpha (ranging from 0,85 to 0,93) indicate a high level of internal consistency in the OLQ (Antonovsky, 1993a). Antonovsky (1993a) reported test-

retest reliability studies to be between coefficients 0,41 and 0,97. A French study that was conducted in different public departments reported Cronbach alpha coefficients that ranged from 0,70 to 0,85 (Gana & Garnier, 2000). The study also showed the test-retest reliability to be $r = 0,65$, $p < 0,05$. In another study a sample of Finnish managers that ranged from supervisors to senior managers reported Cronbach alpha coefficients which ranged from 0,84 to 0,86 (Feldt et al., 2004). Johnson's (2004) sample of undergraduates reflected a Cronbach alpha coefficient of 0,78. In the South African context, Strümpfer and Wissing (1999) confirmed reliability and reported Cronbach alphas that ranged between 0,74 to 0,94. Strümpfer, Viviers and Gouws (1998) reported Cronbach alpha coefficients of 0,89, 0,90 and 0,91 respectively for the three samples they included in their study. Another study that was conducted by Strümpfer and Mlonzi (2001) reported Cronbach alpha coefficients of 0,74 (for Africans) and 0,92 (for whites) in study 1; 0,84 for study 2; and 0,90 for study 3.

Antonovsky (1993a) attested to the instrument's high content, face and criterion validity. South African researchers Strümpfer, Wissing and Van Eeden confirmed the applicability of the instrument in the South African context (Strümpfer & Wissing, 1999; Wissing & Van Eeden, 2002).

3.2.1.8 Justification for use

Sense of coherence is a construct that comprises three concepts, namely comprehensibility (e.g. "Do you have the feeling that you are in an unfamiliar situation and don't know what to do?"), manageability (e.g. "Do you think there will always be people on whom you'll be able to count in the future?") and meaningfulness (e.g. "Life is:...1: full of interest...7: completely routine") (Strümpfer & Mlonzi, 2001, p. 31). According to Antonovsky (1993a), an individuals' sense of coherence is developed if they perceive their world to be comprehensible (rational, understandable, consistent and predictable), manageable (endurable, having resources to cope) and meaningful (challenging and worth making commitments for). Globally, sense of coherence is a good indicator of general psychological wellbeing (Wissing & Van Eeden, 2002). The scale is

constructed to adequately measure this and is appropriate for use in this study because this study seeks to measure the very essence that is mentioned above. Rosenberg's self-esteem scale and the satisfaction with life scale by Diener, Emons, Larsen and Griffen were considered as potential measuring instruments for this study, but the orientation to life scale was evaluated as being most appropriate and fitting for the purposes of this study. In addition to this, the OLQ is applicable across all cultures (Antonovsky, 1993a), making it an attractive and appropriate tool to use in South Africa. This study was conducted in a South African organisation with people of different cultures and languages, and therefore required an instrument that was applicable to such conditions. The scales showed that reliability and validity enhance the OLQ as a reputable research instrument.

3.2.2 Utrecht Work Engagement Scale (UWES)

The development, rationale, aim, dimensions, administration, interpretation, reliability validity and justification for the use of this measuring instrument will now be explained.

3.2.2.1 Development

The UWES was developed by Schaufeli, Salanova, González-Roma and Bakker (2002b). This instrument emerged after burnout researchers become exhausted with their exclusive preoccupation with negative and illness perpetuating results. They sought to find the positive, an antithesis of burnout (Schaufeli et al., 2002b) that would focus on human strengths and optimal functioning rather than weakness and malfunctioning (Seligman & Csikszentmihalyi, 2000). This culminated in the construction of the UWES. Initially, the scale consisted of 24 items; however, after much psychometric evaluation, seven unsound items were eliminated (Schaufeli et al., 2006). The scale measures the three dimensions of work engagement, namely vigour, dedication and absorption. The self-report questionnaire requires respondents to make a choice from a seven-point frequency rating scale that varies from 0 (never) to 6 (always). The instrument was developed in Spanish and English (Schaufeli et al., 2002b). Currently, the scale can be downloaded in several

other languages from www.schaufeli.com (Schaufeli et al., 2006). Interest from many researchers who focus on positive psychology and psychological wellbeing, together with the general shift towards strength and health, has made the UWES an accepted psychometric tool that continues to enjoy much attention in academic research (Seligman & Csikszentmihalyi, 2000; Strümpfer, 1995; Wissing & Van Eeden, 2002).

3.2.2.2 *Rationale*

The rationale of the instrument is that it reflects the respondent's engagement to the organisation through scientifically formulated questions that indicate levels of vigour, dedication and absorption. As indicated previously, engaged workers are more likely to reflect higher levels of vigour and dedication and are immersed in their jobs (Storm & Rothmann, 2003). The instrument specifically seeks to reveal the positive, fulfilling, affective-cognitive work-related state of mind that is persistent and pervasive (Schaufeli et al., 2002b). The scale was chosen for this study because it reflects how people view, feel about and react to their jobs and will therefore improve our understanding of employees' emotional and personal experience of their work. In comparison with sense of coherence and organisational commitment, this information is likely to reveal significant findings that will benefit the organisation through identifying levels of engagement, providing assistance where required, and aiming to improve and enhance it.

3.2.2.3 *Aim*

Contrary to individuals who suffer from burnout, engaged individuals characteristically have high levels of energy and an effective connection to work-related activities; they believe in their ability to cope well with the demands of their jobs (Schaufeli et al., 2006). In view of this, work engagement can be defined as a positive, fulfilling work-related state of mind that is characterised by vigour, dedication and absorption (Schaufeli et al., 2002b). This definition is not meant to refer to a momentary or specific state but is aimed at a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour (Schaufeli et al., 2006). The work

engagement scale is therefore constructed to measure the following (Schaufeli et al., 2002b):

- Vigour that is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, not being easily fatigued and persistence even in the face of difficulties.
- Dedication that is characterised by deriving a sense of significance from one's work, and feeling inspired and challenged by it.
- Absorption that is characterised by being totally and happily immersed in one's work and detaching oneself from difficulties. Time passes quickly and one forgets everything that is around one.

The aim of the UWES in this study is to measure levels of vigour, dedication and absorption in order to provide a comprehensive score of work engagement and to make comparisons between this score, sense of coherence and organisational commitment.

3.2.2.4 Dimensions

The UWES consists of 17 items that are scored on a seven-point Likert rating scale. The scale measures how individuals feel and react at work. It has six items that measure vigour, five items that measure dedication and six items that measure absorption.

The scales are defined as follows:

a) Vigour

Vigour is characterised by high levels of energy and mental resilience, willingness to invest effort and persistence to persevere despite difficulties (Schaufeli & Bakker, 2004).

b) Dedication

Dedication refers to enthusiasm, inspiration, pride, challenge and having a sense of significance (Schaufeli & Bakker, 2004).

c) Absorption

Absorption constitutes being completely engaged and happily absorbed in one's work, having difficulty to detach oneself from one's work and not being aware of how quickly time goes by (Schaufeli & Bakker, 2004).

3.2.2.5 *Administration*

The UWES is a self-report questionnaire that can be administered in groups or individually (Schaufeli et al., 2006). It takes approximately 15 to 20 minutes to complete and has no time limits. The total score is the sum of the three subscales and the work engagement score is represented by a single figure.

3.2.2.6 *Interpretation*

The total score indicates the individual's level of work engagement. The highest possible score is 102. The three concepts of vigour, dedication and absorption provide a profile of the respondent's level of work engagement. Respondents with high scores have high levels of work engagement and respondents with low scores have lower levels of work engagement (Storm & Rothmann, 2003). Similarly, respondents with high levels of work engagement will score higher on the questionnaire and respondents with low levels will have lower scores.

3.2.2.7 *Reliability and validity*

The UWES has good internal consistency and test–retest reliability (Schaufeli et al., 2006). Schaufeli et al. (2002b) found Cronbach coefficients of 0,68 (sample 1) and 0,91 (sample 2) for vigour; 0,91 for dedication (both samples 1 and 2); and 0,73 (sample 1) and 0,75 (sample 2) for absorption. South African studies have also shown internally consistent Cronbach alphas that range from 0,65 to 0,79 for vigour; from 0,77 to 0,85 for dedication; and from 0,65 to 0,73 for absorption (Coetzer & Rothmann, 2007). Storm and Rothmann (2003) found alpha coefficients for the three subscales to be between 0,68 and 0,91.

The factorial validity of the UWES was confirmed in a cross-cultural study of students in Spain, Portugal and the Netherlands (Schaufeli et al., 2002a). Other recent studies have also confirmed the factorial validity of the instrument (Schaufeli et al., 2002b; Coetzer & Rothmann, 2007). Storm and Rothmann's (2003) study in the South African Police Services showed that the instrument can be used across different cultures and race groups.

3.2.2.8 *Justification for use*

Work engagement is a construct that comprises three concepts, namely vigour (e.g. “I am bursting with energy in my work”), dedication (e.g. “I find my work full of meaning and purpose”) and absorption (e.g. “When I am working, I forget everything around me”) (Bosman et al., 2005b, p. 51). Individuals with high levels of vigour, dedication and absorption are those who usually also indicated higher levels of work engagement. Since this questionnaire was developed from a need to emphasise psychological wellbeing, mental health and optimal functioning, it is constructed to assess respondent's feelings and reactions from this perspective. In addition to this, the UWES complements the orientation to life scale because it was also developed from a backdrop of positive psychology. Although Maslach and Leiter (1997) purport that work engagement can be

adequately measured by the opposite profile of the Maslach Burnout Inventory scores, it should be remembered that the measurement and structures of both these concepts differ.

The UWES is considered the best choice for this study because it adequately measures a wide variety of relevant work-related experiences. It provides evidence of cross-cultural applicability (Schaufeli et al., 2002a; Schaufeli et al., 2002b) in both international and South African conditions (Storm & Rothmann, 2003; Bosman et al., 2005b). It is also an instrument that has been rigorously and empirically tested and has proven reliability and validity.

3.2.3 Organisational Commitment Scale (OCS)

This section discusses the development, rationale, aim, dimensions, administration, interpretation, reliability, validity and the justification for use of this scale.

3.2.3.1 Development

Research and interest in organisational commitment have increased over the years. Regardless of which measuring instrument they used, researchers often found a link between levels of commitment, employee turnover and strongly committed employees who are least likely to leave the organisation (Meyer & Allen, 1991). Meyer and Allen (1991) have identified differences between the psychological state that is reflected by commitment and the antecedent conditions that lead to the development and behaviours of commitment. Because they found that inadequate research had been done with regard to the development and precise conceptualisation of the commitment construct, they undertook to delineate the distinctions between three common conceptualisations of attitudinal commitment, develop measures for each dimension and show that the measures were related to antecedents of commitment. This led to Meyer et al., (1993) conducting research to develop an instrument to measure affective, continuance and normative commitment in order to test how Allen and Meyer's (1991) three-component model could be generalised. Affective commitment is based on job challenge, role clarity,

goal clarity, management responsiveness, peer cohesion, organisational dependability, equity, personal importance, feedback and participation in decision making; continuance commitment is based on skills, education, option to relocate, self-investment, pension benefits, community attachment and other job alternatives; and normative commitment is based on a strong sense of personal commitment to the organisation, which demonstrates organisational commitment norms. The scale consists of a seven-point response format and each of the three scales has eight items. Many of the items that they eventually included in the scale were adapted from previous research (Allen & Meyer, 1990).

3.2.3.2 *Rationale*

The rationale for the scale is that it measures an individual's affective commitment (that is, employees' emotional attachment to, identification with and involvement in the organisation); continuance commitment (which refers to the perceived costs that are associated with leaving the organisation); and normative commitment (which are employees' feelings of obligation to remain with the organisation) (Allen & Meyer, 1990). Usually, employees with a strong affective commitment tend to remain with an organisation because they want to, employees with a strong continuance commitment remain because they need to and those with a strong normative commitment remain because they feel that they ought to (Meyer et al., 1993). According to Meyer and Allen (1991), one can get a better understanding of employee relationships in an organisation when all three forms of commitment are considered together – hence the applicability of the three-component model of organisational commitment. The model hypothesises that each component develops from different experiences and has a different impact on on-the-job behaviour (Meyer et al., 1993). The questionnaire is included in this study because it improves our understanding of work-related experiences and reactions and the overall strength of the relationship with and commitment to the organisation. It also provides opportunities to use the data to make comparisons with and inferences from sense of coherence and work engagement, thereby enabling identification of areas that require attention or implementation of solutions to enhance levels of commitment.

3.2.3.3 *Aim*

The aim of the OCS is to measure affective, continuance and normative commitment in order to determine how employees view their jobs and what their reactions to work are (Allen & Meyer, 1990; Meyer et al., 1993). The scale is constructed to measure three distinct themes (Meyer & Allen, 1991):

- commitment as an affective attachment to the organisation (affective commitment)
- commitment as a perceived cost that is associated with leaving the organisation (continuance commitment)
- commitment as an obligation to remain in the organisation (normative commitment)

The aim of the organisational commitment questionnaire in this study was to measure the levels of affective, continuance and normative commitment and to make inferences from this data in comparison with work engagement and sense of coherence levels.

3.2.3.4 *Dimensions*

The original 24-item OCS was used in this research. The scale uses a seven-point rating scale and consists of eight items that measure affective commitment, eight items that measure continuance commitment and eight items that measure normative commitment (Allen & Meyer, 1990). Allen and Meyer (1990) define the three scales as follows:

a) Affective commitment

Employees who demonstrate affective commitment remain with the organisation because they want to.

b) Continuance commitment

These employees remain with the organisation because they need to.

c) Normative commitment

Employees with strong normative commitment remain with the organisation because they feel that they ought to.

3.2.3.5 *Administration*

This instrument is a self-completion questionnaire and can be completed in approximately 15 to 20 minutes. It can be measured individually or in groups, or it can be posted to participants together with a self-addressed envelope (Allen & Meyer, 1990). No time limits are necessary.

3.2.3.6 *Interpretation*

The score of the eight items provides a total and a mean score in each scale. The total score in each scale indicates the employee's level of affective, continuance and normative commitment. There is no single score for organisational commitment because Meyer and Allen (1991) developed the instrument to reflect the three dimensions of the scales separately. The higher the employee's level of commitment on each of the three scales, the more committed the employee is relative to the dimension.

3.2.3.7 *Reliability and validity*

Meyer and Allen (1991) demonstrated coefficient alphas for affective commitment as 0,87, continuance commitment as 0,75 and normative commitment as 0,79. Allen and Meyer (1996) reported further reliabilities of affective commitment as 0,85, continuance commitment as 0,79 and normative commitment as 0,73. They confirm test-retest

reliability. Dunham, Grube and Castaneda (1994) found coefficient alphas for affective commitment that ranged between 0,73 to 0,81, continuance commitment between 0,54 to 0,75, and normative commitment between 0,67 to 0,78. Suliman and Iles' (2000) Arabic study reported reliabilities of 0,73 for affective commitment, 0,60 for continuance commitment and a somewhat weaker 0,47 for normative commitment. Du Buisson-Narsai's (2005) South African study found 0,69 for affective commitment, 0,70 for continuance commitment and 0,73 for normative commitment. Allen and Meyer (1996) attest to the instrument having both convergent and discriminate validity.

3.2.3.8 Justification for use

This instrument provides a good fit in terms of measuring the affective, continuance and normative levels of commitment and what the writer seeks to determine. This makes it highly applicable to this study. The reliability and validity of the scale contribute to making it a well-researched, sound and scientific instrument. The scale was previously translated into Arabic (Suliman & Iles, 2000) and Nepalese (Gautam et al., 2005), and in both cases were found to be free of translation bias. In addition, previous research favours the use of Allen and Meyer's (1990) three-component organisational commitment instrument over the organisational commitment questionnaire which claims that the latter predominately focuses on only the affective dimension (Dunham et al., 1994). The use of this instrument in this study will contribute to improving our understanding of commitment and facilitate ongoing research.

3.2.4 Biographical questionnaire

A biographical questionnaire was constructed and administered to gather information on participant age, gender, occupational level, level of education, tenure, marital status and culture/ethnic group.

3.3 DATA COLLECTION

The collection of data took place as follows:

- Approval was obtained from the CEO of the organisation for this study.
- Questionnaires were printed and bound together into a booklet.
- A memo from the CEO that explained the study and encouraged participation accompanied each booklet.
- A covering letter further explained the reason for the study, confidentiality agreements and guidelines on how to complete the questionnaires. A copy of this letter accompanied each booklet.
- The human resources manager distributed the questionnaires to all the employees in the organisation.
- Participation was voluntary. Employees were requested to take a few minutes off their busy schedules to complete the questionnaires. No time limits were imposed.
- The human resources manager was requested to provide further assistance to expedite the data collection process.
- Once completed, respondents handed the booklet back to the human resources manager.
- The questionnaires were subsequently handed over for computing.

3.4 DATA PROCESSING

The SPSS (Statistical Package for the Social Sciences) programme was used to analyse the data. The specific techniques that were used in the data processing for this study are discussed below.

3.4.1 Biographical data

The biographical data of the sample is provided in chapter 4.

3.4.2 Descriptive statistics and internal reliability of instruments

Descriptive statistics were used to analyse the data. The study used means, standard deviations, skewness and kurtosis to analyse, describe and compare the data. The mean, median and mode are the three main measures of central tendency, with the mean being the most common measure of central tendency (Howell, 1995). The mean is the arithmetic midpoint or average value of a sample of scores and, as such, represents all the scores in the sample (Van Lill & Grieve, 1994). In this study the mean was used as the central tendency. The standard deviation indicates how closely the values are clustered around the mean. The higher the standard deviation, the greater the distances are on average from the mean. Skewness refers to the degree of measure that a distribution is asymmetrical or not (Howell, 1995). If skewness is larger than 0, then the distribution is positively skewed (there are fewer cases above the mean than below the mean). If skewness is smaller than 0, the distribution is negatively skewed (there are more cases above the mean than below the mean) (Terre Blanche & Durrheim, 2002b). Kurtosis is an indication of how thick the tails of the distribution values are. If the distribution is neither very peaked nor very flat (the two tails are moderately thick), the kurtosis is 0 (Terre Blanche & Durrheim, 2002b).

The reliability of a measure refers to the consistency with which it measures whatever it measures (Foxcroft & Roodt, 2002). In this study Cronbach coefficient alpha was computed to measure the internal consistency reliability of the measuring instruments. Internal consistency is computed by determining the degree to which each item in a scale correlates with each other item (Terre Blanche & Durrheim, 2002a). This score indicates whether all the items on the questionnaire are measuring the same characteristics. The higher the alpha, the more reliable the test is. Usually scores of 0,70 and above are considered acceptable (Nunnally & Bernstein, 1994).

3.4.3 Inter-item correlation

Inter-item correlation coefficients are computed to reflect the internal consistencies of the three constructs. The degree to which an item in a scale correlates with other items on the scale determines the internal consistency (Terre Blanche & Durrheim, 2002a). According to Clark and Watson (1995), inter-item correlations that fall between 0,15 and 0,50 are considered acceptable.

In this study the item analyses entailed the following:

- Each item was scored and electronically captured as indicated by the theory (scoring is reversed as indicated).
- Data was computed to determine factor loadings.
- All items below a factor loading of 0,1 was eliminated from the subscale.
- If it was established that the exclusion of certain items would improve the alpha significantly, these items were removed from the final calculation of the subscale.
- Only items that were viewed as adequately reliable were therefore included in the final subscale score.

3.4.4 Correlations

A non-parametric measure of correlation, namely Spearman's rho was used in this study, given that the sample was small and that not all the scores were normally distributed. The choice of a nonparametric measure was deemed most appropriate in this instance to control type 1 errors, to produce good power and to enable meaningful interpretations. (Harwell, 1988).

Spearman's rho indicates the strength of the relationship between ordinal variables. More specifically, it is the point on the scale between -1,00 and +1,00; the closer it is to either of these limits, the stronger is the relationship between the variables (Howell, 1995). An r

of -1 is a perfect negative correlation, an r of 1 is a perfect positive correlation and an r of 0 means that there is no correlation (Terre Blanche & Durrheim, 2002b).

Henson and Smith (2000) confirm the value of reporting effect sizes to examine practical significance and to interpret the magnitude of differences between groups and the relationships between variables. P-values and statistically significant tests are therefore used to establish if results are significant. Given a large enough sample (n), even a very weak correlation can be statistically significant and given a small enough sample size, even a very strong correlation might not be statistically significant (Terre Blanche & Durrheim, 2002b). Effect sizes are used to determine whether results are practically significant. Cohen (1992) provides the following as cut-off points for the practical significance of the correlation coefficient between variables:

- $r = 0,10$ – small effect
- $r = 0,30$ – medium effect
- $r = 0,50$ – large effect

This study used a cut-off point of 0,30 (medium effect) to establish practical significance.

3.4.5 Biographical variables

A nonparametric measure, namely Mann-Whitney test was used to compare the scores between gender and sense of coherence, work engagement and organisational commitment.

P values below 0,05 were used to establish statistical significance

3.4.6 Regression analysis

The assumptions of regression are that the predictive variables are linearly related to the dependent variable. The predictors should not be too highly correlated with one another,

as this will lead to multicollinearity. A forward stepwise regression analysis was conducted to determine the proportion of variance in the dependent variables (work engagement and organisational commitment) that are predicted by the independent variable (sense of coherence). The purpose for this choice was to enable the researcher to judge the additional explained variance by adding more variables to the predictive model.

The forward stepwise regression procedure was applied, with the sense of coherence scale as the independent variable and the work engagement, affective commitment, continuance commitment and normative commitment as the dependent variables.

A cut-off of 0,35 (large effect), as prescribed by Steyn (1999), was used to determine the practical significance.

Steyn (1999) gives the following guidelines to interpret the level of practical significance:

- smaller than 0,15 – small effect
- 0,15 to 0,35 – medium effect
- larger than 0,35 – large effect

3.5 FORMULATION OF HYPOTHESIS

In line with the specific research objectives of the study, the following hypothesis can be formulated.

Hypothesis statement:

There is a relationship between sense of coherence, work engagement and organisational commitment among employees in the automotive development institution.

The null hypothesis would be that such a relationship does not exist.

3.6 SUMMARY OF CHAPTER

In this chapter phase 2 of the research was addressed and the sample of the study was explained. All individuals in the organisation were included in the study. The three measuring instruments were explained and discussed in detail. A discussion on the data gathering process followed, which revealed how the data was collected from individuals in the organisation. The data gathering, data processing and the relevant statistical analysis were explained. The chapter concluded by stating the research hypothesis for the study.

In chapter 4 the results of the empirical study are reported and discussed.

CHAPTER 4: RESEARCH RESULTS

This chapter consists of the reporting, interpretation and integration of the research results. It contains detailed descriptive statistics of the sample by means of tables and graphs. It addresses the reliability of each of the three measuring instruments. The three constructs are analysed further through comparisons that are based on gender and region. It explains and interprets the relationships between the constructs by means of the correlations and regression analysis.

4.1 BIOGRAPHICAL STATISTICS

The biographical data reports figures for age, gender, tenure, educational level, marital status and culture/ethnic group (n=46). This data is represented both numerically and graphically.

Table 4.1: Number of years with the company (tenure)

Category	Frequency	Percentage
Less than 1 year	18	39,13%
1–2 years	10	21,74%
3–5 years	10	21,74%
6–10 years	8	17,39%
11–15 years	0	0%
16–20 years	0	0%
More than 20 years	0	0%

Figure 4.1: Number of years with the company (tenure)

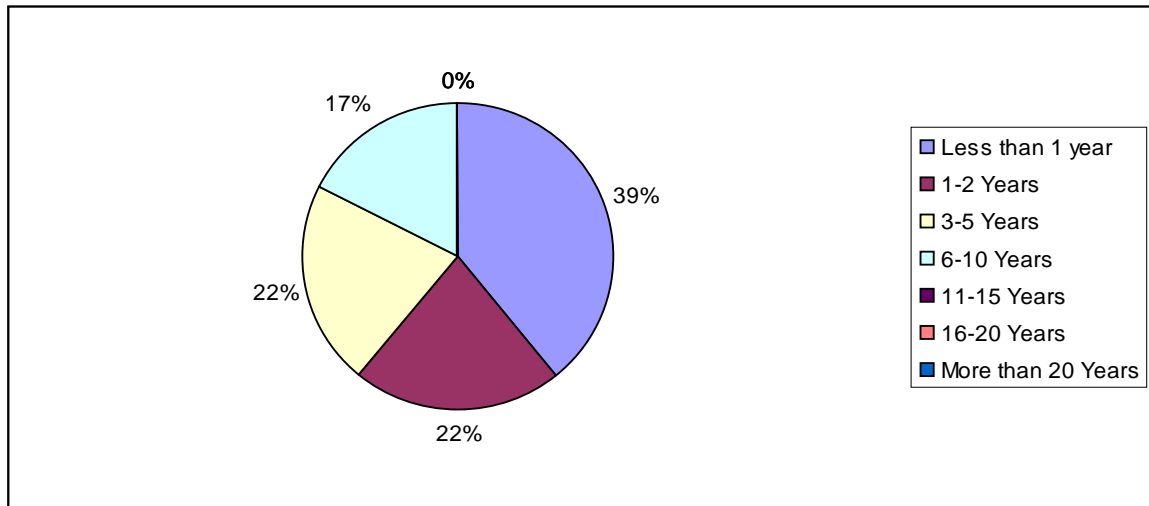


Figure 4.1 shows that most of the employees have been with the company for less than one year, indicating considerable movement in terms of people leaving and joining the company. However, a significant number is spread between one and 10 years.

Table 4.2: Number of years in current position

Category	Frequency	Percentage
Less than 1 year	23	50%
1–2 years	9	19,57%
3–5 years	7	15,22%
6–10 years	5	10,87%
11–15 years	1	2,17%
16–20 years	1	2,17%
More than 20 years	0	0%

Figure 4.2: Number of years in current position

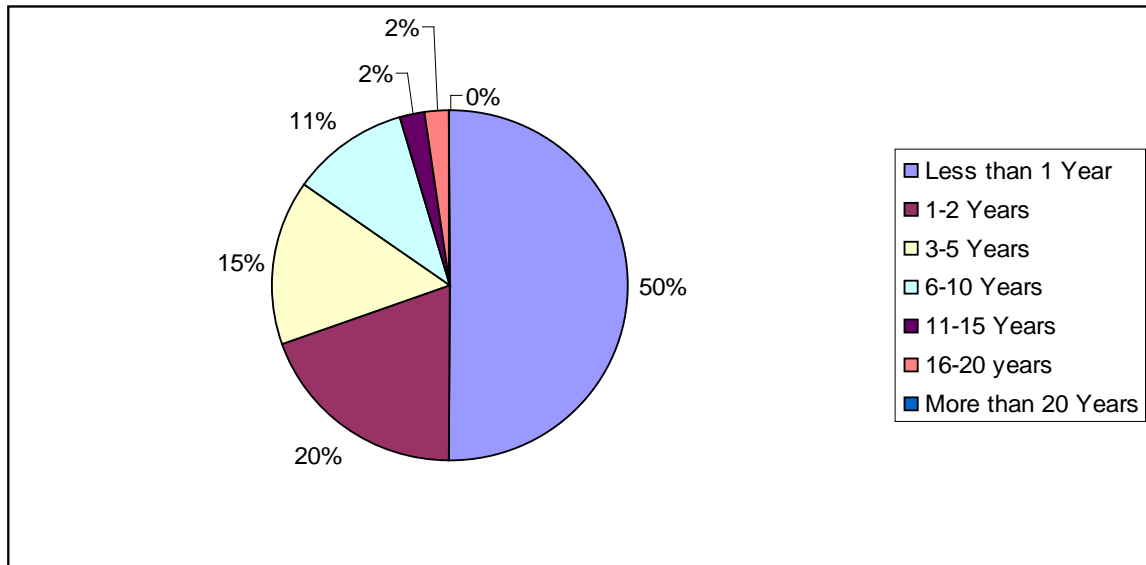


Figure 4.2 indicates that 50% of the employees have been in their current positions for less than a year. It also shows that approximately 45,66% of the employees have been in their current positions for between one and 10 years.

Table 4.3: Distribution of education level

Category	Frequency	Percentage
Matric	3	6,52%
Matric + diploma	19	41,30%
Undergraduate degree	7	15,22%
Postgraduate degree	15	32,61%
Other	2	4,35%

Figure 4.3: Distribution of education level

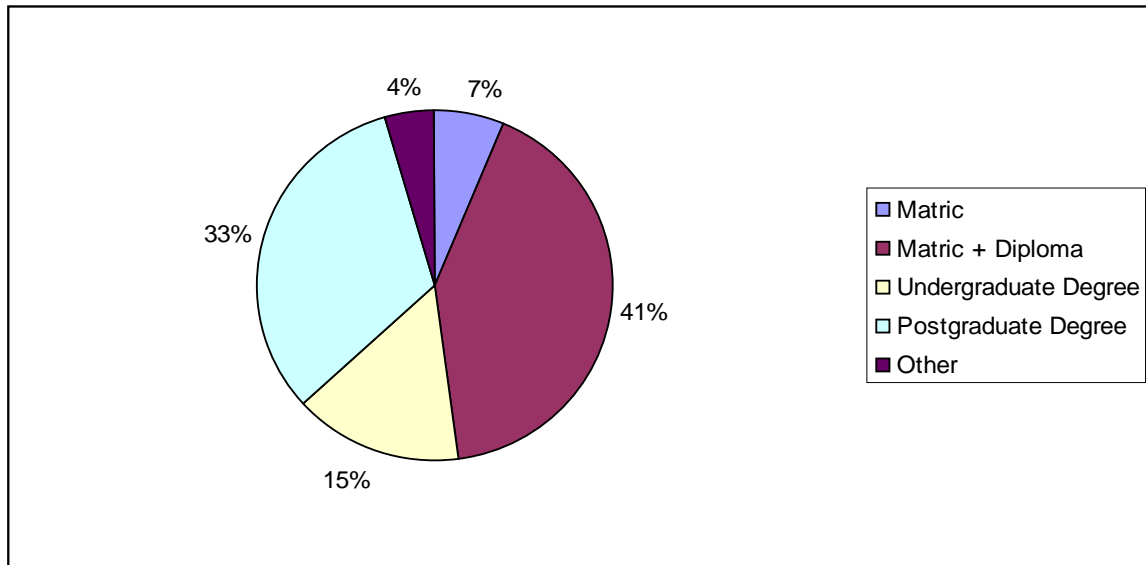


Figure 4.3 shows that 41,30% of the employees have a matric plus a diploma. It also shows that 32,61% of them have postgraduate qualifications, which is considerably high.

Table 4.4: Distribution of age

Category	Frequency	Percentage
20 years & younger	0	0%
21-25 years	11	23,91%
26-30 years	7	15,22%
31-35 years	13	28,26%
36-40 years	9	19,57%
41-45 years	1	2,17%
46-50	4	8,70%
51 years or older	1	2,17%

Figure 4.4: Distribution of age

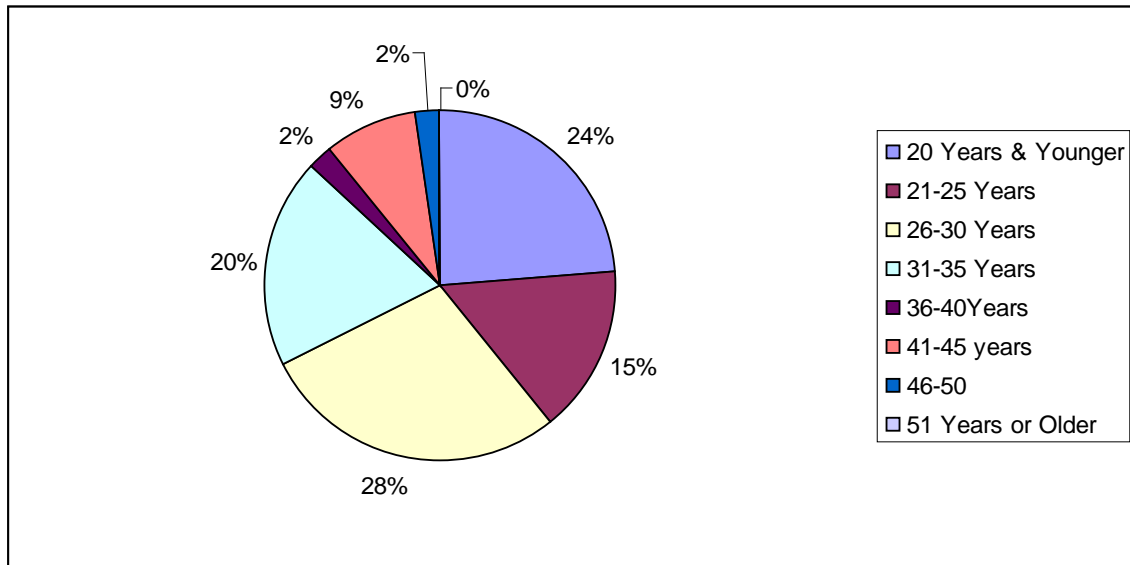


Figure 4.4 indicates that approximately 68% of the employees are between the ages of 21 and 35 years. The members of the largest group are between 31 and 35 years old. The age distribution indicates a fairly young spread of workers.

Table 4.5: Gender distribution

Category	Frequency	Percentage
Male	20	43,48%
Female	26	56,52%

Figure 4.5: Gender distribution

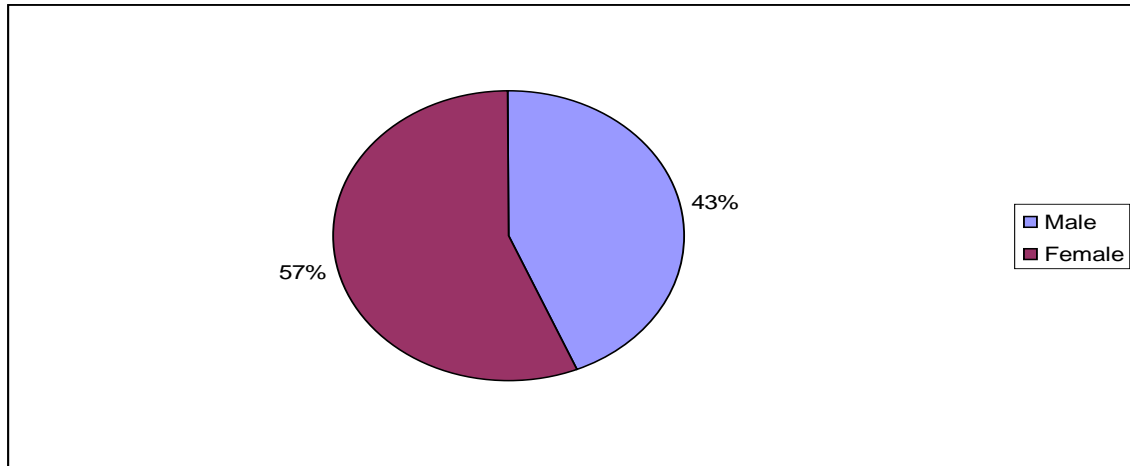


Figure 4.5 shows that there are significantly more females in the sample than males. According to the above table, 43% are males and 57% are females. The sample can therefore be described as a female-dominated work group.

Table 4.6: Marital status distribution

Category	Frequency	Percentage
Married	26	56,52%
Unmarried	16	34,78%
Divorced/Separated	2	4,35%
Widowed	0	0%
Living together	2	4,35%

Figure 4.6: Marital status distribution

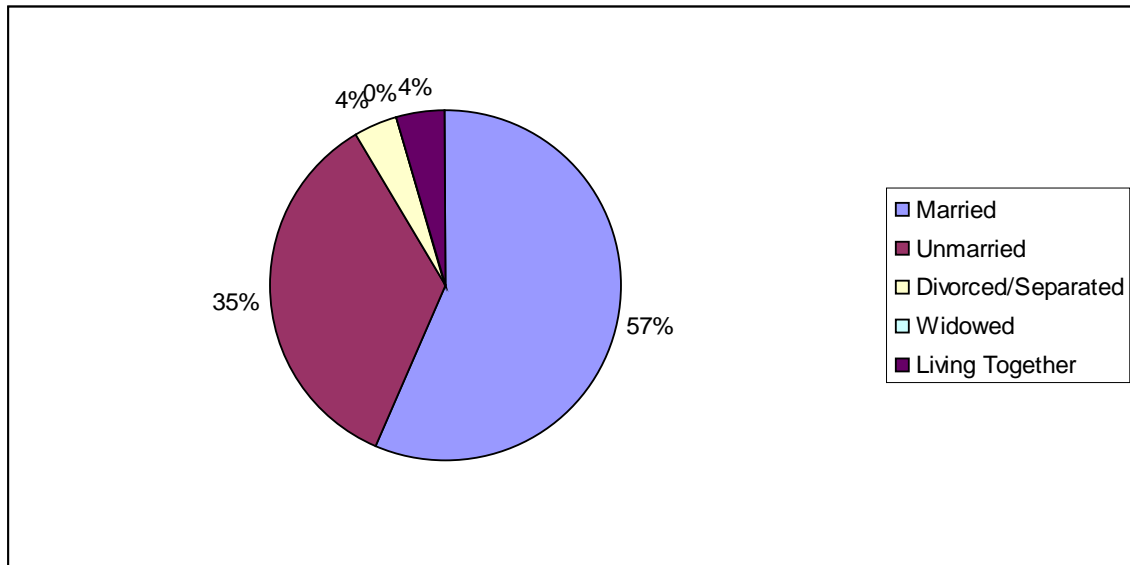


Figure 4.6 indicates that most of the participants are married (57%). The second largest group is unmarried, which represents 34,78% of the sample. A small percentage (4,35%) has indicated that they are divorced/separated or living together.

Table 4.7: Culture/Ethnic group distribution

Category	Frequency	Percentage
Asian	5	10,9%
Black	19	41,3%
Coloured	4	8,7%
White	17	37%
Unanswered	1	2,2%
Other	0	0%

Figure 4.7: Culture/Ethnic group distribution

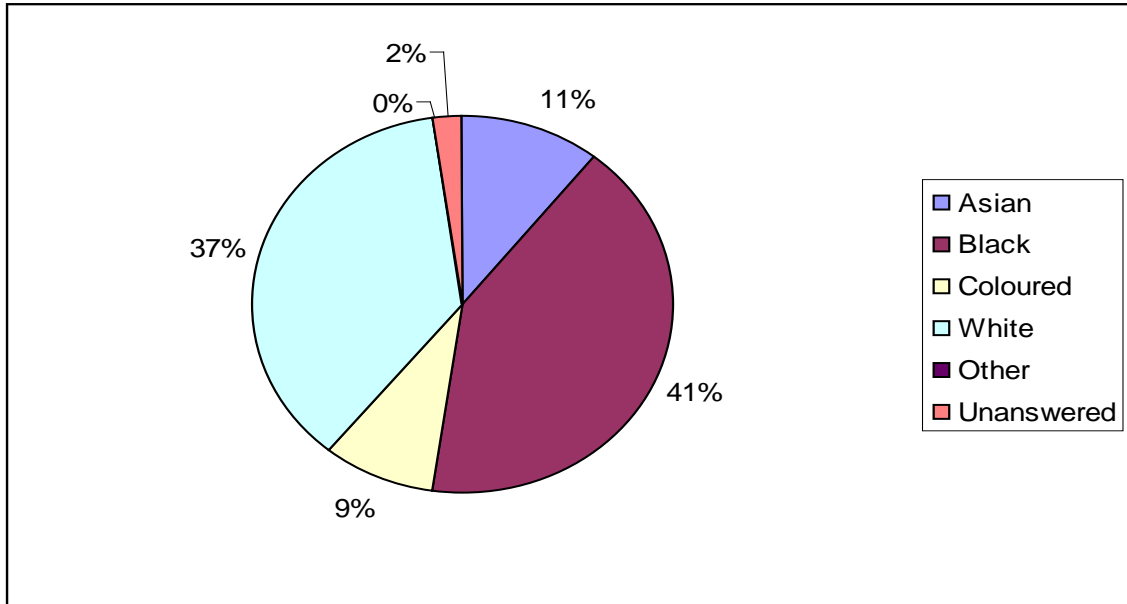


Figure 4.7 indicates a 41,3% black representation and a 37% white representation. Asian people make up 11% of the sample and coloured people 8,7%.

Table 4.8: Distribution by province

Category	Frequency	Percentage
Gauteng	37	80,4%
Eastern Cape	9	19,6%
Total	46	100%

Figure 4.8: Distribution by province

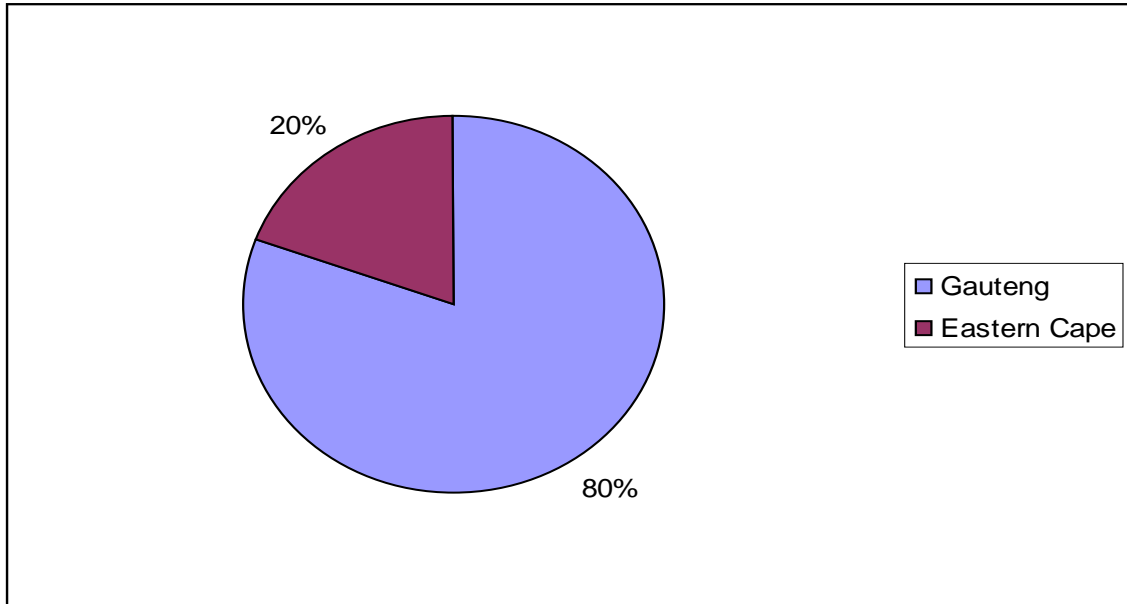


Figure 4.8 shows the staff complement in the organisation's two offices: Pretoria office (80%) and Eastern Cape office (20%).

4.2 DESCRIPTIVE STATISTICS

The descriptive statistics of the three measuring instruments (namely the OLQ, the UWES and the OCS) follows. The mean, standard deviation (SD), skewness and kurtosis of the different questionnaires and their subscales are reported. Coefficient alphas are also reported to determine the internal consistency of each instrument.

4.2.1 Orientation to Life Questionnaire (OLQ)

The descriptive statistics of the OLQ are reported in table 4.9 below.

Table 4.9: Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the OLQ

Subscale	Valid N	Mean	SD	Skewness	Kurtosis	Range	r (Mean)	Alpha Coefficient
Comprehensibility	46	48,86	8,91	-0,18	-0,15	38,00	0,16	0,72
Manageability	46	53,30	7,61	-0,39	-0,52	32,00	0,19	0,69
Meaningfulness	46	45,04	6,64	-0,81	-0,95	32,00	0,23	0,71
Total OLQ	46	147,63	19,39	-0,23	-0,68	80,00	0,16	0,84

Table 4.9 shows the descriptive statistics for the OLQ. The mean scores vary between 45,04 (meaningfulness) and 53,30 (manageability). The total mean for the sense of coherence questionnaire is 147,63. The respondents from this sample scored the highest on the subscale manageability (with a mean of 53,30) and the lowest on meaningfulness (with a mean score of 45,04). This indicates that the respondents from the sample are confident and believe that irrespective of the stimuli, they have the available resources to cope and manage (Antonovsky, 1993a). The scores on all the dimensions appear to be distributed normally, as is reflected by the figures for skewness and kurtosis which are all smaller than one.

Table 4.10: Cronbach alphas of individual items of the OLQ

Comprehensibility	Cronbach Alpha	Manageability	Cronbach Alpha	Meaningfulness	Cronbach Alpha
1	0,71	2	0,68	4	0,65
3	0,70	6	0,66	7	0,57
5	0,72	9	0,67	8	0,54
10	0,62	13	0,64	11	0,59
12	0,64	18	0,67	14	0,57
15	0,63	20	0,67	16	0,59
17	0,68	23	0,64	22	0,70
19	0,66	25	0,67	28	0,71
21	0,65	27	0,65		
24	0,66	29	0,68		
26	0,69				

The inter-item correlations are considered acceptable compared to the guideline of $0,15 < r < 0,50$ (Clark & Watson, 1995). In addition, the Cronbach alpha coefficients are considered acceptable compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). Although some individual items fall marginally below 0,70, the total for each dimension and the total for the OLQ scale reflect acceptable levels of alpha coefficients. In view of this, no items were considered for exclusion. It can therefore be reported that the scale has acceptable internal consistency.

4.2.2 Utrecht Work Engagement Scale (UWES)

Table 4.11: Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the UWES

Subscale	Valid N	Mean	SD	Skewness	Kurtosis	Range	R (Mean)	Alpha Coefficient
Vigour	46	29,70	6,03	-1,80	3,30	26,00	0,57	0,88
Dedication	46	25,85	4,90	-1,96	4,46	21,00	0,58	0,87
Absorption	46	27,98	5,96	-1,49	3,25	30,00	0,43	0,80
Total (UWES)	46	83,70	16,05	-1,93	4,45	77,00	0,53	0,95

The table above shows the descriptive statistics for the UWES. The mean scores vary between 25,85 (dedication) and 29,70 (vigour). The total mean score is 83,70. The respondents scored the highest on the subscale vigour and the lowest on dedication. Respondents from the sample are therefore more inclined to have high levels of energy and mental resilience in their work experience. They feel energised, motivated and excited about their work and will persevere even when confronted with challenges, obstacles or difficulties. Skewness and kurtosis scores on all the dimensions appear to be larger than one, indicating that the scores are not normally distributed. A larger sample would be ideal to draw firm conclusions about the distribution of the scores.

Table 4.12: Cronbach alphas of individual items of the UWES

Vigour	Cronbach Alpha	Dedication	Cronbach Alpha	Absorption	Cronbach Alpha
1	0,87	2	0,82	3	0,79
4	0,83	5	0,82	6	0,83
8	0,88	7	0,81	9	0,75
12	0,85	10	0,90	11	0,73
15	0,86	13	0,86	14	0,75
17	0,86			16	0,77

The inter-item correlations are considered acceptable compared to the guideline of $0,15 < r < 0,50$ (Clark & Watson, 1995). Each of the above subscales have acceptably high Cronbach alpha coefficients, all of which are above 0,70, which is in line with the guideline of $a > 0,70$ (Nunnally & Bernstein, 1994). The decision was therefore made to include all the items. It can be reported that the scale has acceptable internal consistency.

4.2.3 Organisational Commitment Scale (OCS)

Table 4.13: Descriptive statistics, alpha coefficients and inter-item correlation coefficients of the OCS

Subscale	Valid N	Mean	SD	Skewness	Kurtosis	Range	r (Mean)	Alpha Co-efficient
Affective Commitment	46	5,61	0,93	-0,63	-0,28	3,62	0,22	0,70
Continuance Commitment	46	4,58	1,05	0,11	-0,81	4,38	0,20	0,64
Normative Commitment	46	4,71	0,91	-0,12	0,32	4,37	0,18	0,63

The table above shows the descriptive statistics for the OCS. On this scale, respondents scored the highest on affective commitment (5,61) and the lowest on continuance commitment (4,58). The participants in the sample have indicated a strong desire to remain with the organisation because they want to. They have expressed strong emotional attachment to, identification with and involvement with their organisation (Meyer & Allen, 1991). This is followed by normative commitment which reflects feeling an obligation to stay with the organisation, essentially because they feel that they ought to. The respondents in the sample feel least that they have to stay with the organisation because they need to or because of an awareness of the associated costs of leaving. Skewness and kurtosis scores on all the dimensions are smaller than one, indicating that the scores are normally distributed.

Table 4.14: Cronbach alphas of individual items of the OCS

Affective Commitment	Cronbach Alpha	Continuance Commitment	Cronbach Alpha	Normative Commitment	Cronbach Alpha
1	0,66	9	0,61	17	0,58
2	0,69	10	0,57	18	0,59
3	0,69	11	0,51	19	0,54
4	0,65	12	0,63	20	0,48
5	0,65	13	0,57	21	0,50
6	0,64	14	0,59	22	0,50
7	0,67	15	0,56	23	0,46
8	0,63	16	0,51	24	0,59

The inter-item correlations are considered acceptable compared to the guideline of $0,15 < r < 0,50$ (Clark & Watson, 1995). The affective commitment scale demonstrates acceptable reliability. The first analysis of the continuance scale reflected an alpha of 0,61; on deleting item 9, it improved to 0,64. The initial analysis of the normative scale reported an alpha of 0,58; on deleting item 17, it improved to 0,63. This has been done in this study to increase the levels of internal consistency.

4.3 CORRELATIONS

This section reports the Spearman's rho which indicate the relationships between the constructs.

4.3.1 Sense of coherence and work engagement

The table below indicates the relationships between the sense of coherence subscales (OLQ) and the work engagement subscales (UWES). As mentioned in chapter 3, Spearman's rho which is a non-parametric method was used due to the small sample size.

Table 4.15: Correlation Coefficients between OLQ and UWES (n=46)

Sense of Coherence Subscales		Work Engagement Subscales		
		Vigour	Dedication	Absorption
Comprehensibility	Spearman Correlation	0,369*+	0,243	0,269
	Sig. (two-tailed)	0,012	0,104	0,071
	N	46	46	46
Manageability	Spearman Correlation	0,383**+	0,276	0,192
	Sig. (two-tailed)	0,009	0,063	0,201
	N	46	46	46
Meaningfulness	Spearman Correlation	0,499**++	0,452**+	0,323*+
	Sig. (two-tailed)	0,000	0,002	0,029
	N	46	46	46

*Correlation is significant at the 0,01 level (two-tailed)

**Correlation is significant at the 0,05 level (two-tailed)

r = 0,10 – small effect

+r = 0,30 – medium effect

++r = 0,50 – large effect

The table above shows the correlations between the sense of coherence subscales and the work engagement subscales. Table 4.15 shows a practically significant, positive correlation of medium effect between comprehensibility and vigour. This implies that high levels of comprehensibility can be associated with high levels of vigour. Therefore individuals who experience cognitive sense, and perceive information within their environment as being structured, ordered, consistent and predictable (Antonovsky, 1987) are also likely to experience high levels of energy and mental resilience and will invest time and effort to work related activities despite being faced with challenges (Schaufeli et al., 2006). A practically significant, positive correlation with medium effect was also obtained between manageability and vigour, implying that increased levels of manageability are associated with high levels of vigour. These individuals are confident of their ability to manage and cope with life imposing demands and believe that resources are available to assist them should they require it (Antonovsky, 1996), in addition, to experiencing high levels of energy, mental resilience and perseverance with regards to work related challenges. Furthermore meaningfulness showed a practically significant positive correlation of large effect with vigour, suggesting that higher levels of meaningfulness are associated with higher levels of vigour. Meaningfulness also showed practically significant positive correlations of medium effect with dedication and absorption. Therefore individuals within the sample who experience life as making emotional sense, being significant and accepting challenges as worthy engagements (meaningfulness) also experience high levels of energy, mental resilience (vigour), appreciate their work for being important, meaningful and challenging (dedication) and enjoy what they do to the extent of being completely immersed in it (absorption). These findings support the opinions of Antonovsky (1987) and Geyer (1997) that reactions of individuals with high levels of sense of coherence are generally more appropriate, adaptive, and coping efforts more successful.

4.3.2 Sense of coherence and organisational commitment

The table below indicates the relationships between the sense of coherence subscales (OLQ) and the organisational commitment subscales (OCS).

Table 4.16: Correlation between OLQ and OCS (n=46)

Sense of Coherence Subscales		Organisational Commitment		
		Affective	Continuance	Normative
Comprehensibility	Spearman Correlation	0,108	-0,305*+	-0,068
	Sig. (two-tailed)	0,473	0,040	0,653
	N	46	46	46
Manageability	Spearman Correlation	0,151	-0,070	-0,012
	Sig. (two-tailed)	0,316	0,646	0,939
	N	46	46	46
Meaningfulness	Spearman Correlation	0,188	-0,274	-0,226
	Sig. (two-tailed)	0,212	0,065	0,132
	N	46	46	46

*Correlation is significant at the 0,05 level (two-tailed)

$r = 0,10$ – small effect

$+r = 0,30$ – medium effect

$++r = 0,50$ – large effect

The table above indicates the correlations between the sense of coherence subscales and the organisational commitment subscales. Table 4.16 shows a practically significant negative correlation of medium effect between comprehensibility and continuance commitment, implying that higher levels of comprehensibility is associated with lower levels of continuance commitment. The employees experiencing their work environment as “rational, understandable, structured, ordered, consistent and predictable” (Antonovsky, 1987), therefore identified less with the costs associated with leaving the organisation. The results reflected in table 4.16 imply that no significant relationship exists between any of the other sense of coherence and organisational commitment subscales.

4.3.3 Work engagement and organisational commitment

The table below indicates the relationships between the work engagement subscales (UWES) and the organisational commitment subscales (OCS).

Table 4.17: Correlation between UWES and OCS (n=46)

Work Engagement Subscales		Organisational Commitment		
		Affective	Continuance	Normative
Vigour	Spearman Correlation	0,466**+	0,077	0,035
	Sig. (two-tailed)	0,001	0,611	0,815
	N	46	46	46
Dedication	Spearman Correlation	0,460**+	0,118	0,069
	Sig. (two-tailed)	0,001	0,434	0,647
	N	46	46	46
Absorption	Spearman Correlation	0,511**++	0,114	0,120
	Sig. (two-tailed)	0,000	0,452	0,426
	N	46	46	46

*Correlation is significant at the 0,01 level (two-tailed)

**Correlation is significant at the 0,05 level (two-tailed)

r = 0,10 – small effect

+r = 0,30 – medium effect

++r = 0,50 – large effect

Table 4.17 shows the correlations between the work engagement subscales and affective, continuance and normative commitment. The table above indicates a practically significant positive correlation of medium effect was obtained between vigour and affective commitment, suggesting that higher levels of vigour are associated with affective commitment. Individuals within the sample who operate with high levels of

energy, mental resilience and perseverance (vigour), identify with and experience an emotional attachment to their employing organisation thus encouraging them to remain with the organisation because they want to (affective commitment). A practically significant positive correlation of medium effect was also found between dedication and affective commitment, implying that increased levels of dedication are associated with higher levels of affective commitment. Individuals experiencing feelings of significance, enthusiasm, inspiration and challenge with regards to their work (dedication) tend to identify emotionally and feel a sense of belonging to their organisation. Lastly a practically significant positive correlation of large effect was obtained between absorption and affective commitment, also suggesting that higher levels of absorption are associated with higher levels of affective commitment. Therefore individuals experiencing feelings of enjoyment and contentment work identify more with their employing organisation and thus choose to remain because they want to. These findings support the view by Meyer et al., (1993) that affective commitment will be enhanced when involvement with one's work proved to be satisfying, inspiring, and absorbing.

The results reflected in table 4.17 above indicate that no significant relationship exists between the other work engagement subscales and continuance and normative commitments.

With regards to the correlational results indicated above, it must be remembered that a larger sample is more likely to produce more conclusive findings; it is therefore advised that these findings be interpreted with caution.

4.3.4 Biographical variables

Due to the sample size, non-parametric alternatives were used to compare the mean scores of the biographical subgroups on the various scales measured.

Table 4.18: A non-parametric comparison (Mann-Whitney Test) between gender and sense of coherence, work engagement and organisational commitment

Dimensions	Mann-Whitney	Wilcoxon	Z	Asymp. Sig. (two-tailed)	Gender	n	Mean
Comprehensibility	143,50	494,50	-2,59	0,010*	Male	20	4,759
					Female	26	4,199
Manageability	187,00	538,00	-1,62	0,11	Male	20	5,56
					Female	26	5,16
Meaningfulness	184,00	535,00	-1,687	0,09	Male	20	5,89
					Female	26	5,43
Vigour	236,00	587,00	-0,534	0,593	Male	20	5,11
					Female	26	4,83
Dedication	251,00	602,00	-0,20	0,84	Male	20	4,46
					Female	26	4,19
Absorption	259,50	469,50	-0,01	0,99	Male	20	4,74
					Female	26	4,60
Affective Commitment	224,50	434,50	-0,79	0,43	Male	20	5,48
					Female	26	5,71
Continuance Commitment	166,500	376,50	-2,08	0,04*	Male	20	3,99
					Female	26	4,75
Normative Commitment	169,00	379,00	-2,02	0,04*	Male	20	4,22
					Female	26	0,98

*Statistically significant: p-value below 0,05

In the table above comprehensibility reflects a p-value of 0,010, which indicates a significant difference between males and females in this subscale. The male respondents have a mean of 4,759, which shows that they have higher levels of comprehensibility than their female counterparts (mean = 4,199). The male respondents in the sample perceive their environment as “rational, understandable, structured, ordered, consistent

and predictable (Antonovsky, 1987). These individuals enjoy control, levels of confidence and cognitive sense in their environment.

Wissing and Van Eeden (2002) reported higher levels of sense of coherence (mean = 139,57) for men and (mean = 134,07) women. Antonovsky (1996) confirmed that sense of coherence can be influenced by social structure, culture and family structure, with input from other factors such as gender, ethnicity, chance and genetics. A Finnish study that was conducted by Volanen et al. (2004) revealed psycho-emotional resources such as quality of relationship with partner, social support, quality of work and childhood living conditions were strongly associated with sense of coherence for both men and women. Wissing and Van Eeden (2002) assert that in the South African context, African women in particular have been subjected to cultural limitations and socio-economic deprivation that could have influenced their development of sense of coherence. Recent corporate and government efforts to enhance gender equity, equality and empowerment have indicated slow, steady and progressive change in this regard. Future studies with regard to gender will likely reflect these interesting changes.

A p-value of 0,04 for continuance commitment indicates a significant difference between males and females on this scale. This is in favour of the females in the organisation (with a mean score of 4,75) compared to males (who score lower with 3,99). The females in this sample experience a higher level of awareness of the costs that are associated with leaving the organisation and are with the organisation because they have to be.

The table above reflects a significant difference between male and female normative commitment in the organisation. Males have higher levels of normative commitment (mean = 4,22) than females (mean = 0,98). The males in the organisation experience a feeling of obligation to remain with the organisation because they feel that they ought to.

The other dimensions in table above do not reflect p-values below 0,05 and are therefore not significant. This means that in this sample comprehensibility, continuance and normative commitment have the most significant differences with regard to gender.

Table 4.19: A non-parametric comparison (Mann-Whitney Test) between province (Gauteng and Eastern Cape) and sense of coherence, work engagement and organisational commitment

Dimensions	Mann-Whitney	Wilcoxon	Z	Asymp . Sig. (two-tailed)	Region	n	Mean
Comprehensibility	155,00	200,00	-0,32	0,75	Eastern Cape	9	22,22
					Gauteng	37	23,81
Manageability	88,50	133,50	-2,16	0,03*	Eastern Cape	9	14,83
					Gauteng	37	25,61
Meaningfulness	142,50	187,50	-0,67	0,51	Eastern Cape	9	20,83
					Gauteng	37	24,15
Vigour	152,00	197,00	-0,40	0,69	Eastern Cape	9	21,89
					Gauteng	37	23,89
Dedication	151,00	196,00	0,43	0,66	Eastern Cape	9	21,78
					Gauteng	37	23,92
Absorption	164,50	867,50	-0,06	0,96	Eastern Cape	9	23,72
					Gauteng	37	23,45
Affective Commitment	110,00	155,00	-1,57	0,12	Eastern Cape	9	22,22
					Gauteng	37	23,81
Continuance Commitment	89,00	134,00	-2,15	0,03*	Eastern Cape	9	17,22
					Gauteng	37	25,03
Normative Commitment	159,00	204,00	-0,21	0,84	Eastern Cape	9	14,89
					Gauteng	37	25,59

*Statistically significant: p-value below 0,05

In the above table manageability reflects a p-value of 0,03, which indicates a significant difference between Eastern Cape and Gauteng with regard to this subscale. The

respondents from Gauteng have a mean of 25,61 and therefore demonstrate higher levels of manageability than their Eastern Cape counterparts (mean = 14,83). Respondents from Gauteng demonstrate confidence in being able to cope and manage with life's imposing demands and challenges. They believe that assistance is always readily available and are able to deploy relevant resources when required.

In addition, Gauteng has much higher levels of continuance commitment (mean = 25,03) compared to the Eastern Cape (mean = 17,22). There is a significant difference between the Eastern Cape and Gauteng (p value = 0,03) with regard to continuance commitment. Individuals in Gauteng are more inclined to be driven by an awareness of the costs that are associated with leaving the organisation and remain because they feel that they have to.

The other dimensions in table 4.19 do not reflect p-values below 0,05 and are therefore not significant. This means that in this sample, manageability and continuance commitment demonstrate the most significant differences with regard to region.

4.4 REGRESSION

The results of the regression analysis are now reported. As indicated in chapter 3, a forward stepwise regression was used to facilitate the judgement of the additional explained variance by adding more variables to the predictive model (i.e. to see the R square change). The independent variable is sense of coherence and the dependent variables are work engagement and organisational commitment.

Table 4.20: Stepwise regression results for sense of coherence and work engagement

Model	Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Significance
		B	Std. Error	Beta		
1	(Constant)	2,690	0,870		3,091	0,003
	Meaningfulness	0,348	0,153	0,325	2,276	0,028

Table 4.21: Model summary of stepwise regression results for sense of coherence and work engagement

Model	R	R-Square	Adjusted R-Square	R-Square Change	F Change	p-value
1	0,325 ^a	0,105	0,085	0,105	5,180	0,028

^a Predictors: (Constant), Meaningfulness

The regression formula to predict work engagement (WE) can be written as:

$$WE = 2,690 + 0,3489 (\text{Meaningfulness}).$$

In table 4.20 the stepwise multiple regression with work engagement as the dependent variable indicates that only one independent variable (meaningfulness) contributed significantly towards work engagement. Table 4.21 indicates that meaningfulness accounts for only 8,5% of work engagement. The remaining 91,5% can be attributed to factors that are beyond the perimeters of this study. Theoretically, it indicates a weak relationship between the two variables.

Given the small sample of the study, the explained variance is almost negligible and is therefore difficult to make inferences from. The findings must therefore be approached with caution.

Table 4.22: Stepwise regression results for sense of coherence and organisational commitment

Mode	Independent Variable	Unstandardised Coefficients	Standardised Coefficients	t	Significance	
		B	Std. Error	Beta		
1	(Constant)	6,510	0,915		7,116	0,000
	Comprehensibility	-0,470	0,203	-0,330	-2,318	0,025

Table 4.23: Model summary of stepwise regression results for sense of coherence and organisational commitment

Model	R	R-Square	Adjusted R-Square	R-Square Change	F Change	p-value
1	0,330 ^a	0,109	0,089	0,109	5,375	0,025

^a Predictors: (Constant), Comprehensibility

The regression formula to predict continuance commitment (CComm) can be written as follows:

$$CComm = 6,510 - 0,470 (\text{Comprehensibility})$$

Table 4.22 shows the stepwise regression with continuance commitment as the dependent variable. It indicates that only one independent variable (comprehensibility) contributed significantly to continuance commitment. It can be inferred from table 4.23 that only 8,9% of the variance can be explained. This means that only 8,9% of comprehensibility is responsible for predicting continuance commitment. The other 91,1% can be attributed to factors that beyond the scope of this study. This finding indicates a weak relationship between the two variables.

Once again the small size of the sample and the small percentage of explained variance makes it difficult to make inferences from, and such findings must be viewed with caution.

Because the correlations between sense of coherence and affective and normative commitment were extremely low, the data could not reflect sense of coherence as a predictor of affective or normative commitment.

4.5 INTEGRATION

A discussion on sense of coherence, work engagement and organisational commitment with regard to the research results follows.

This study compares favourably with other studies in terms of descriptive analysis. The total mean score of sense of coherence is similar to those reported in studies (mean = 135,92) that were conducted by Rothmann et al. (2003) (mean = 156,74); Cilliers and Coetzee (2003) (mean = 154,06); Strümpfer and Mlonzi 2001) (mean = 141,23); and Du Buisson-Narsai (2005). This reflects that the participants in the sample are similar to the participants of previous studies in terms of the way that they experience the world and their life within it. They are, however, more inclined to exhibit behaviours that reflect confidence in managing and coping with adversity and believing that assistance is always available when faced with difficulties and challenges. This is followed by strength in perceiving the world as rational, understandable, structured, ordered, consistent and predictable (Antonovsky, 1987), thereby contributing to making cognitive sense of the world. The participants feel least inclined to perceive their lives as making emotional sense and as being significant, motivating and worthy of embracing obstacles and challenges as learning experiences (meaningfulness).

Work engagement has a total mean score of 83,70, which is noticeably higher compared to those that were previously reported (mean = 64,54) by Storm and Rothmann (2003) (mean = 52,91); Coetzer and Rothmann (2007) (mean = 65,23); and Bosman et al.,

(2005). The sample therefore indicates a relatively strong level of work engagement across all three subscales, namely vigour, dedication and absorption. The participants revealed stronger levels of vigour, interest and energy with regard to their work, followed closely by absorption. This indicates their contentment and enjoyment of what they do, and their willingness to immerse themselves in completely in their work to the point of becoming unaware of passing time.

In terms of organisational commitment, the highest scores were reported for affective commitment (5,61) and the lowest for continuance commitment (4,58). Therefore, the respondents indicated a strong desire to remain with the organisation because they want to. This is followed by normative commitment which reflects individuals feeling an obligation to remain with the organisation essentially because they feel that they ought to. The individuals in the sample feel least that they have to stay merely because of the costs that are associated with leaving. In comparison to other studies, the organisational commitment scores for this sample were favourable (affective = 2,92, continuance = 2,80 and normative = 2,17 in Meyer et al., 2007; affective = 5,25, continuance = 3,58 and normative = 4,76 in Gautam et al., 2005; and affective = 5,38, continuance = 4,12 and normative = 4,48 in Du Buisson-Narsai, 2005). The sample reflects relatively strong commitment across the affective, continuance and normative scales.

The reporting of the levels of sense of coherence, work engagement and organisational commitment within the sample group fulfils specific empirical aim number 1.

Spearman correlations reflect the following to be the most significant relationships between sense of coherence and work engagement:

- Comprehensibility and vigour reflect a practically significant, positive correlation of medium effect. This means that individuals who experience cognitive sense, and operate in a structured, ordered, consistent and predictable (comprehensibility) way will also reflect high levels of energy and mental resilience (vigour). Respondents are keen, enthusiastic and excited about their

work and will fearlessly accept obstacles in their stride, viewing them as challenges rather than setbacks.

- Manageability and vigour showed a practically significant, positive correlation of medium effect. The results are indicative of respondents' control and confidence in coping and managing stressful life imposing demands (manageability) and individuals' perceiving their daily experiences with emotional sense, mental resilience, motivation and perseverance (vigour).
- Meaningfulness showed a practically significant, positive correlation of of large effect with vigour. This means that accepting challenges courageously and being motivated and emotionally aware (meaningfulness) enhances levels of high energy, mental resilience and overcoming challenges.
- Meaningfulness reflected a practically, significant, positive correlation of medium effect with dedication and absorption. Individuals within the sample experience life as making emotional sense (meaningfulness), also experience their work as being meaningful and challenging (dedication) and enjoy what they do to the point of being completely absorbed with it.

The most significant relationships between sense of coherence and organisational commitment are as follows:

- Comprehensibility reflected a practically, significant, negative correlation of medium effect with continuance commitment. This indicates that individuals who score high on perceiving their world as ordered, consistent and organised and who are able to make cognitive sense of their environment identified less with the costs associated with leaving the organisation. The results reflected no other significant relationships between the other sense of coherence subscales and organisational commitment.

Relationships of significance between work engagement and organisational commitment are as follows:

- Vigour showed a practically significant positive correlation of medium effect with affective commitment. Individuals in the sample are excited, eager and motivated about their work (vigour) and they choose to remain with the organisation because they want to.
- A practically significant positive correlation of medium effect was obtained between dedication and affective commitment. This indicates that respondents experience their work as being important, challenging, motivating and inspiring. This encourages them to remain with the organisation because they want to.
- Absorption and affective commitment indicated a practically significant positive correlation of large effect. This indicates that respondents are focused and content with their work, often losing track of time and find it difficult to stop working (absorption). They therefore remain with the organisation out of choice.

The above correlations fulfil specific empirical aim number 2 which sought to determine the relationships (if any) between sense of coherence, work engagement and organisational commitment. On the basis of the research results, the following relationships were found:

Between sense of coherence and work engagement

- Comprehensibility is significantly related to vigour.
- Manageability is significantly related to vigour.
- Meaningfulness is significantly related to vigour.
- Meaningfulness is significantly related to dedication
- Meaningfulness is significantly related to absorption

Between sense of coherence and organisational commitment

- Comprehensibility is significantly negatively related to continuance commitment.
- No practically significant relationship was found between sense of coherence and affective and normative commitment.

Between work engagement and organisational commitment

- Vigour is significantly related to affective commitment.
- Dedication is significantly related to affective commitment.
- Absorption is significantly related to affective commitment.

The above findings indicate that there is a relationship between sense of coherence, work engagement and continuance commitment; however, the hypothesis is only partially accepted.

Although the researcher found no previous research that pertains specifically to sense of coherence and work engagement, sense of coherence was found to correlate significantly with other job satisfaction measures and other measures of psychological wellbeing (Strümpfer & Mlonzi, 2001; Wissing & Van Eeden, 2002). Cilliers and Coetzee (2003) reported significant correlations between sense of coherence, learned resourcefulness and self-actualisation. Johnson's (2004) study confirmed that sense of coherence has a unique relation to health, self-esteem and locus of control.

A closer examination of the biographical variables shows that males in the organisation have higher levels of comprehensibility. The females are more aware of the costs that are associated with leaving the organisation and have higher levels of continuance commitment. Males also have higher levels of normative commitment, which demonstrates feeling an obligation to remain with the organisation.

This finding satisfies specific empirical aim number 3 which sought to establish if biographical variable "gender" reports different levels of sense of coherence, work engagement and organisational commitment. On the basis of the results, it can be inferred that

- there is a significant difference with regard to comprehensibility between the males and females in the sample (males report higher means)
- Females experience higher continuance commitment.
- Males have higher normative commitment.
- There are no other significant differences between the remaining subscales.

In terms of comparing the two regions Gauteng and the Eastern Cape, respondents from Gauteng have higher levels of manageability than their Eastern Cape counterparts. This indicates their strength to cope and manage challenges and demands effectively in their environment, and confidence in their ability to deploy resources or assistance when these are required. Gauteng also has higher levels of continuance commitment than the Eastern Cape, demonstrating respondents' awareness of the costs that are associated with leaving and their decision to remain because they have to.

This finding satisfies specific empirical aim number 3, which sought to establish if the biographical variable "region" reports different levels of sense of coherence, work engagement and organisational commitment. The results indicate that

- there is a significant difference with regard to manageability between Gauteng and the Eastern Cape
- Gauteng has higher levels of continuance commitment
- there are no other significant differences between the remaining subscales

The forward stepwise regression analysis that was done to determine if sense of coherence can predict work engagement reflects meaningfulness as contributing significantly to work engagement. Meaningfulness plays an instrumental role in allowing an individual to experience emotional sense, motivation and career worth, and develops a positive perception of environmental challenges and setbacks which encourages the individual to engage in and learn from them. This strength contributes to experiencing high levels of energy, mental resilience (vigour), feeling enthusiastic, inspired and challenged (dedication), and willingly immersing oneself in work because of

contentment. However, given that the sample within the study is considered small, it must be remembered that these findings and interpretations be viewed with caution.

Specific empirical aim number 4 sought to determine if sense of coherence can be viewed as a predictor for work engagement. The findings of the study reveal that:

- Sense of coherence is only a partial predictor of work engagement.
- Work engagement is determined by the individual's motivation and ability to cope meaningfully (meaningfulness). It is predicted by the individual's level of control and confidence to cope and manage any imposing demands or challenges of life through meaningfulness. However, this only explains 8,5% of the variance for the dependent variable.

The forward stepwise regression analysis that was undertaken to determine if sense of coherence can predict organisational commitment reveals comprehensibility as contributing significantly to continuance commitment. Comprehensibility enables the individual to experience his or her world as rational, understandable, structured, ordered, consistent and predictable (Antonovsky, 1987), thereby making cognitive sense in his or her environment. The negative beta coefficient indicates that the respondents who achieved high scores on sense of coherence (comprehensibility) will not perceive their relationship with the organisation to be equated with costs. They scored lower on continuance commitment. Again, it must be remembered that the size of the sample impacts on the researcher's ability to make interpretations from inconclusive findings.

Specific empirical aim number 5 sought to determine if sense of coherence can be viewed as a predictor for organisational commitment. The findings of the study reflect that:

- Sense of coherence predicts continuance commitment on a negative level through experiencing the world as comprehensible. It accounts for only 8,9% of the variance in the dependent variable.

- Sense of coherence cannot predict affective or normative commitment (correlations in the sample are too low).

4.6 SUMMARY OF CHAPTER

This chapter reported the results of the empirical study. The results were presented in the form of graphs, tables and statistical analysis. Descriptive statistics were used to describe the biographical data and the three measuring instruments. The three constructs were compared on the basis of gender and region. The data was further analysed and interpreted through correlations and regression analysis. The hypotheses that were formulated in chapter 3 were addressed and partially accepted.

In chapter 5 the conclusions of the research are discussed, the limitations of this study are revealed and recommendations are made.

CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to provide conclusions about the specific objectives that were stated in chapter 1. In addition, this chapter discusses the limitations of this study and offers recommendations.

5.1 CONCLUSIONS

This study was aimed at investigating the relationship between sense of coherence, work engagement and organisational commitment in an automotive development institution in South Africa. The research conclusions that can be drawn from the theoretical and empirical study will now be formulated.

5.1.1 Literature review

The literature review was aimed at examining the specific theoretical aims of the study that were stated in chapter 1. The first aim was achieved in chapter 2 of this study by conceptualising each of the three constructs, sense of coherence, work engagement and organisational commitment.

The literature showed that sense of coherence is an effective orientation which enables individuals to respond positively, courageously and with confidence to internal or external stimuli. After all, life's demands are challenges that are worthy of investment and engagement (Antonovsky, 1993a). As a universally meaningful construct, it consists of three fundamental components, namely comprehensibility, manageability and meaningfulness. Comprehensibility refers to the individual's ability to perceive the world as rational, understandable, structured, ordered, consistent and predictable (Antonovsky, 1987), thereby making cognitive sense of his or her environment. Manageability refers to the extent of the individual's perception that whatever the demands, challenges or stimuli that he or she face, resources are always available to cope with it. Meaningfulness

emphasises the ability to perceive stimuli as worthy, significant and motivating; it contributes to emotional sense, thereby shaping and influencing how individuals perceive their daily experiences, future and destiny.

Work engagement is a positive and fulfilling work-related state of mind that is characterised by high levels of energy and mental resilience (Schaufeli et al., 2002a; Coetzee & Roythorne-Jacobs, 2007). It consists of three important concepts: vigour, dedication and absorption. Vigour is characterised by high levels of energy and mental resilience that are accompanied by a willingness to persevere even when confronted with obstacles. Dedication refers to being inspired, challenged and excited, and results in eager involvement in work. Absorption is characterised by content appreciation for one's work to the point of not being aware of the passing of time.

Organisational commitment was conceptualised by using the three-component model: affective, continuance and normative commitment. Affective commitment refers to an individual's emotional attachment to, identification with and involvement in the organisation (Allen & Meyer, 1996). Individuals with high affective commitment will remain with the organisation because they want to. Continuance commitment is characterised by an awareness of the costs that are associated with leaving the organisation. Individuals who are primarily in the organisation because of continuance commitment will remain in it because they have to. Normative commitment reflects a feeling of obligation to remain with the organisation. Individuals who have high levels of normative commitment will remain with the organisation because they ought to.

The second specific theoretical aim of this study (namely to establish the theoretical relationship between sense of coherence, work engagement and organisational commitment) was also achieved in chapter 2. The literature review showed that a theoretical relationship does exist between sense of coherence, work engagement and organisational commitment. Sense of coherence enables individuals to cognitively and emotionally understand the demands in their environment and to effectively employ resources to manage them. This level of efficacious control stimulates energy, mental

resilience and work engagement. In addition, it enhances and strengthens the psychological attachment or alliance that employees have with their employers and reinforces their intention to willingly remain with the organisation.

5.1.2 Empirical study

As stated in chapter 1, the first empirical aim of this study was to determine the levels of sense of coherence, work engagement and organisational commitment in the sample group. This aim was achieved and measured against previous research in chapter 4. The participants in the sample had similar levels of sense of coherence and organisational commitment as the participants in other studies. However, they had much higher levels of work engagement in comparison to the results of some of the other studies.

The second empirical aim regarding possible relationships between sense of coherence, work engagement and organisational commitment was achieved in chapter 4 through the reporting, interpretation and illustration of the results of the empirical study.

The use of correlations showed that the most significant relationships between sense of coherence and work engagement to be between:

- Comprehensibility and vigour.
- Manageability and vigour.
- Meaningfulness and vigour
- Meaningfulness and dedication
- Meaningfulness and absorption

The most significant relationship between sense of coherence and organisational commitment were between:

- Comprehensibility and continuance commitment.

The significant relationships between work engagement and organisational commitment were between:

- Vigour and affective commitment.
- Dedication and affective commitment.
- Absorption and affective commitment.

In terms of the third empirical aim of this study which was to establish whether differences in gender and region exist with regard to the three constructs, it was shown that males in the sample had higher levels of comprehensibility than females. The results of the empirical study also showed that females had higher levels of continuance commitment than males and males had higher levels of normative commitment than females.

The results further revealed significant differences in manageability between employees in Gauteng and employees in the Eastern Cape. In addition, employees in Gauteng had higher levels of continuance commitment.

In terms of the fourth empirical aim, the results of the study showed that sense of coherence was a partial predictor of work engagement. The multiple regression analysis indicated that although meaningfulness played a significant role in developing work engagement in the organisation the findings must be viewed with caution, given that the size of the sample is considered to be small.

The fifth empirical aim was to determine if sense of coherence can predict organisational commitment. The results indicated that although sense of coherence predicted continuance commitment on a negative level through individuals experiencing the world

as comprehensible the findings must be approached with caution as the sample was not large enough to make conclusive inferences.

Sense of coherence could not predict affective or normative commitment in the sample.

5.2 LIMITATIONS OF THE RESEARCH

The limitations of the research are discussed with regard to the literature review and the empirical study.

5.2.1 Literature review

The following limitations were encountered with regard to the literature review:

- Studies on work engagement and organisational commitment appear to be few, especially in the South African context; this limited the researcher's efforts to find more varied researched data.
- Limited literature seems to exist on the relationship between sense of coherence, work engagement and organisational commitment.

5.2.2 Empirical study

The following limitations were encountered with regard to the empirical study:

- The most serious limitation of the empirical study was the small sample size. This means that one has to exercise caution before making generalisations about the findings.
- This sample came from a limited work environment and industry. It would add more value and insight to include samples from multiple industries or work environments.

- Personality type inventories were not used in this study. By determining which personality types demonstrated higher levels/lower levels of sense of coherence, work engagement and organisational commitment, more insight to and understanding of the study would have been possible.
- The CEO of the organisation resigned early in 2008. The organisation was managed by an acting CEO at the time when data for this study was collected. The acting CEO has since been appointed as CEO. It is likely that employees experienced uncertainty or insecurity during this time. If the current study is viewed as a pre-test, it would be interesting to see what kind of results a post-test would reveal.

5.3 RECOMMENDATIONS

The following action-oriented recommendations that are based on the results of the study can be formulated:

- In view of the fact that the study reported reasonable values with regard to the levels of sense of coherence, work engagement and organisational commitment in comparison with other studies, it is possible that the organisation's turnover problems might have been related to other factors that are beyond the scope of this study. A proper organisational diagnosis is recommended to address this problem.
- The organisation can continue to select and recruit individuals who have high levels of sense of coherence and work engagement because this combination produces a good synergy of mental resilience, motivation, cognitive sense and energy, fulfilment and contentment regarding work experience.
- The development of the comprehensibility dimension in employees can enhance continuance commitment as is shown by the predictive value in the results.
- In view of the fact that the CEO had resigned earlier, it is possible that employees experienced feelings of uncertainty, insecurity and even low morale because they had to cope with the change and a new leader. It took several months before a new

CEO was appointed. The unwillingness to wait for stability to return, frustration and unpredictable fear most likely encouraged some employees to seek employment elsewhere. Exit interviews could provide valuable information regarding employees' decisions to leave, which would be useful in developing savvy talent retention strategies.

- The organisation can benefit from robust talent management systems and processes for recruiting, developing and retaining employees. A survey that was conducted by Deloitte (2004) recommended a develop, deploy and connect model: developing employees in ways that stretch their capabilities, deploying them to jobs or tasks that engage their heads and hearts, and connecting them to the people who will assist them to achieve their objectives.

On the basis of the empirical results of this study, the following recommendations for further research are made:

- The relationship between sense of coherence, work engagement and organisational commitment should be studied in multiple industries and not one specific industry and work environment. This would provide deeper insight and understanding of the findings.
- Future research on sense of coherence should include the relationship between sense of coherence and the impact of genetics. While it is understood that genetics alone is not responsible for mental health disorders, together with environmental factors it is implicated in a wide range of psychological disorders such as schizophrenia, bipolar disorder, major depression, alcoholism, anxiety and antisocial personality disorders (Nevid et al., 2003). Further research and study on the impact and influence of genetics on sense of coherence can lead to a deeper understanding of the construct and might lead to enhanced ways of developing and sustaining it.
- The influence of biographical variables such as age, work experience and educational background on work engagement and organisational commitment should be researched further.

- Further research on the relationship between sense of coherence, work engagement and organisational commitment in international automotive industries is still required.
- Future research on understanding sense of coherence, work engagement and organisational commitment should be done by means of different measuring instruments and the data should then be compared.
- The relationship between sense of coherence, work engagement and organisational commitment should be investigated further and can be enhanced by using a larger sample to produce more generalisable findings.
- Future research should examine work engagement and organisational commitment through qualitative research to draw more rich and varied data. This can be done through the use of open-ended questionnaires or interviews with individuals to encapsulate their true experience in the organisation.

5.4 SUMMARY OF CHAPTER

The general aim of this research was to determine the relationship between sense of coherence, work engagement and organisational commitment. Based on this objective, this final chapter focused on the conclusions of this study in terms of both the literature review and the empirical study. This was followed by consideration of the limitations of the study. The chapter concluded with recommendations for future research that were based on the findings of this study.

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