

**THE RELATIONSHIP OF WELLNESS CONSTRUCTS IN EMPLOYEES
COPING IN A PETROCHEMICAL ORGANISATION IN SOUTH AFRICA**

by

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FOR THE ATTENTION OF THE READER

SCOPE OF THE DISSERTATION

For this master's dissertation, the Department of Human Resource Management prescribes an article format. This format involves seven chapters – an introductory chapter, followed by the research literature chapters (presented as chapters 2, 3 and 4) and ending with a conclusion/limitations/recommendations chapter.

TECHNICAL AND REFERENCE STYLE

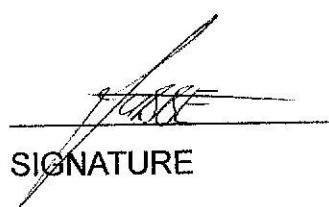
The APA style was followed in terms of the technical editing and referencing.

DECLARATION

I, Heilda Helena Lübbe (known as Lienkie), 49119400, declare that

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is my own work, and that all the sources I have used or quoted from have been indicated and acknowledged by means of complete references.



SIGNATURE

11 November 2017

DATE

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SUMMARY

The primary objectives of this study were to determine the relationship between the wellness constructs coping and SoC as well as the relationship between the wellness constructs LoC and SoC in the petrochemical industry in South Africa. The sample of 184 participants completed three different psychological concepts namely COPE (Hereinafter referred to as 'coping'), Locus of Control Inventory and Sense of Coherence Scale.

The results of the study indicate that there is a statistically significant relationship between the variables coping ad SoC as well as SoC and LoC but no statistically significant relationship between the variables coping and LoC.

KEY TERMS

Coping, locus of control, sense of coherence, salutogenesis, and wellness constructs

CHAPTER 1

GENERAL INTRODUCTION

1.1 INTRODUCTION

The world of work often is characterised by excessive client demands, strict policies and processes, brief turnaround times and unpredictable rework (Adeyemi-Bello in Gropp, Geldenhuys & Visser, 2007).

Three wellness construct, namely locus of control, sense of coherence and his or her ability to cope can provide valuable insights that may potentially be used to inform employee wellness interventions aimed at helping people to be more productive in the work environment. The primary focus of this study is to determine the relationship between these three psychological wellness constructs within a petrochemical environment.

This chapter deals with the aim of the study, research questions, methodology and chapter layout as well as a summary on this chapter.

1.2 BACKGROUND AND MOTIVATION TO THE STUDY

The world of work is changing rapidly. Employment trends affect the quality and quantity of work in general, and the changing nature of competition creates contradictions in the work experience (Snyder & Lopez, 2002). These changes are reshaping all kinds of organisations and are altering the way they operate (Prichett & Pound, n.d.)

Owing to several severe and fundamental changes that have taken place in the world of work in a relatively short period of time, technology has changed the manner in which the economy works, which in turn has changed the world of work itself (Vettori, 2007). According to De Klerk (2005), an individual's work is a substantial part of his or her life, and thus a place where he or she seeks a sense of meaning. Work is therefore not

simply a job, but an opportunity of great significance that serves other functions than simply earning a living (De Klerk, 2005).

Weiten, Lloyd, Dunn, and Hammer (2009) state that a major challenge for workers today is balancing work, family and leisure activities. Because dual-earner families have become the norm, juggling multiple roles has emerged as a challenge.

Globalisation and increased economic competition are profoundly altering the way people live and relate to one another. The world of work has become unstable because of changes in global economic activity, technology and cultural practices (Deuze, 2007). In many recent accounts of work, work practice and career development, much is made of the disempowerment and anxiety caused by the constantly turbulent and uncertain nature of contemporary work (Billet, 2006). In South Africa, work demands have increased because of many factors, including the economic situation in the country (Van Zyl, 2002). The economic situation coupled with work demand leads to fear among employees, such as possible retrenchment, loss of income, the possibility that business or individual objectives will not be achieved, and unhealthy competition between employees (Van Zyl, 2002). The global economic downturn has further meant that employees utilise their time more efficiently.

The environment in the petrochemical and larger corporate industries is characterised by long working hours, high work volumes, fast turnaround times and deadlines. In addition, the environment is fast paced and pressurised because of complex processes. Petroleum refining and the petrochemical industry play a vital role in the current world economy. They provide the platform for transforming raw materials into many essential products used by humanity, ranging from transportation and industrial fuels to basic components for plastics, synthetic rubbers and many other useful chemical products. Economic growth and increasing populations will keep global demand for these products high for the foreseeable future. According to the International Energy Agency (IEA, 2006), petroleum makes up 42.3% of the total energy consumption in the world.

All of the above factors add to the challenges faced by employers in the petrochemical sector when recruiting suitable employees and then developing and retaining them as intellectual capital.

The petrochemical environment is fairly harsh, and besides developing skills and expertise, it could be valuable to investigate the relationship between wellness elements that could promote the optimal performance of employees. The conception of what makes a life good has an enormous impact on the individual's psychological perception of well-being. Aristotle and other philosophers, religious leaders, and humans have all puzzled over what it is that qualifies as a good life (Biswass-Diener, 2011). Positive psychology provides guidelines suggesting ways to ensure optimal happiness, or resilience or optimal psychological development, maturity and moral reasoning (Biswass-Diener, 2011).

The “work smarter” trend not only applies to the petrochemical industries but to all competitive industries. In light of the above, the aim of this study was therefore to examine the relationship between coping, internal locus of control and sense of coherence in order to establish what potentially makes an employee perform well in this work environment.

Furthermore, it appears that all three constructs are somehow related to the psychological wellness of the individual. The researcher believes that if the petrochemical organisation is able to identify potential leaders or talented individuals early in the recruitment or succession planning process, it will be able to channel the necessary resources into their development, thereby creating efficiencies in the identification process of current and future leaders. The findings might also assist the petrochemical organisation in forming a holistic idea of all the skills an individual requires to perform the job well.

The aim of this study is to examine the relationship between three wellness constructs, namely coping, internal locus of control and sense of coherence, in order to establish what the variables are that potentially make employees perform well in the face of challenges such as those currently being experienced in the petrochemical industry.

1.3 PROBLEM STATEMENT

According to Mouton and Marais (1996), the core concepts of the problem need to be clearly defined for empirical research. A problem statement thus has to be identified for this specific study.

The literature makes it clear that the knowledge an individual has with regard to the wellness construct, namely locus of control, sense of coherence and his or her ability to cope can provide valuable insights that may potentially be used to inform employee wellness interventions aimed at helping people to be more productive in the work environment (Rao, 2007). However, limited research has been done on the relationship between locus of control, sense of coherence and coping and the strategies employees use to deal with everyday changes in their lives, specifically in the South African, multicultural, organisational context (Rao, 2007).

Adams, Bezner, Drabbs, Zambarano, and Steinhardt, (2000) state that wellness is commonly conceptualised as having many dimensions. Employee wellness is a proactive, dynamic process in which individuals and the group become aware of their life choices and “response abilities”, and then make the decision to lead lives that promote wellness. Employee wellness is a conscious and continuous process leading towards the enhancement of individual, organisational and community health and wellbeing (Van der Merwe, 2004).

Often, in practice, inadequate attention is given to the concept of well-being in organisations. Much research has been done on the causes underlying employee dissatisfaction, poor performance, inability to cope under pressure and aspects of illness at work, but not enough research on the causes of employee wellness (Cilliers & Kossuth, 2004). According to Compton (2001, p. 486), one “will find a confusing array of theoretical perspectives, conclusions and methodologies that all claim some authority in the literature”. This is a regrettable misunderstanding because employees who are emotionally healthy contribute to a profitable organisation (Cilliers & Kossuth, 2004).

The findings in the study of these three wellness constructs may not only highlight the level of wellness among employees, but may also draw attention to the need for wellness

programmes in order to ensure that assistance is given to those individuals who might benefit from these programmes. Wellness programmes tend to result in reduced absenteeism, improved industrial relations, increased performance and productivity and reduced health-care costs (Sieberhagen, Pienaar, & Els, 2011).

This study represents original research with the aim to contribute new knowledge to the field of human resource management and more specifically to the sub-field of employee health and wellness.

1.4 RESEARCH QUESTIONS

1.4.1 Research questions relating to the literature review

The following specific research questions relating to the literature review were formulated:

Research question 1: How does the literature conceptualise employee wellness in the 21st-century world of work.

Research question 2: How does the literature conceptualise locus of control and sense of coherence in the workplace.

Research question 3: How does the literature conceptualise coping in the workplace.

1.4.2 Research questions relating to the empirical study

The following specific research question relating to the empirical study was formulated:

Research question 1: What is the relationship between the wellness constructs: Coping and locus of control in the petrochemical industry in South Africa?

Research question 2: What is the relationship between the wellness constructs: Coping and sense of coherence in the petrochemical industry in South Africa?

Research question 3: What is the relationship between the wellness constructs: locus of control and sense of coherence in the petrochemical industry in South Africa?

1.5 HYPOTHESES

A hypothesis is a precise statement in which something is predicted (Trochim, n.d.). It describes in real terms what one anticipates or predicts will happen in the research study. Research hypotheses were formulated in order to achieve the objectives of the study.

The following research hypotheses were formulated in order to achieve the objective of the study and to meet the criteria for the formulation of hypotheses.

Research hypothesis	Description
H01	There is no statistically significant relationship between the variables coping and SoC
Ha1	There is a statistically significant relationship between the variables coping and SoC
H02	There is no statistically significant relationship between the variables coping and LoC
Ha2	There is a statistically significant relationship between the variables coping and LoC
H03	There is no statistically significant relationship between the variables SoC and LoC
Ha3	There is a statistically significant relationship between the variables SoC and LoC

The research hypotheses were tested by analysing the relationship between coping, sense of coherence and locus of control.

1.6 AIMS OF THE RESEARCH

Given the specific problems to be investigated, the following general and specific aims were formulated:

1.6.1 General aim

The general aim of this research is to determine the relationship between coping, locus of control (as operationalised by internal locus of control) and sense of coherence of employees in a petrochemical organisation in South Africa.

1.6.2 Specific aims

The specific aims are to determine the correlation between coping, sense of coherence and locus of control.

The specific aims of the empirical study included the formulation of conclusions and recommendations in terms of the relationship for future measurement and effective organisational functioning.

1.6.2.1 Literature review

Research aim 1: To conceptualise the three wellness constructs, namely coping, internal locus of control and sense of coherence in the petrochemical industry of South Africa.

Research aim 2: To conceptualise employees' wellness in the 21st-century world of work.

1.6.2.2 Empirical study

Research aim 1: To determine the relationship between the three wellness constructs, namely coping, internal locus of control and sense of coherence in the petrochemical industry in South Africa.

1.7 STATEMENT OF SIGNIFICANCE

Many factors promote or hinder the wellness of employees in any organisation. Hardly any research has been conducted on the role of wellness-related attributes such as coping, locus of control and sense of coherence in the South African context. Wellness

is not merely the absence of illness but a state of complete physical, mental and social well-being (Roscoe, 2009). Wellness overlaps with constructs such as positive mental health, flourishing, well-being and happiness, although none of these constructs alone sufficiently explain wellness as a multidimensional concept that integrates signs of wellbeing with the ability to function well (Schueller, 2009).

Personal wellness at work can also be seen as another element of wellness itself. The relationship between general wellness, meaning in life and aspects of work wellness tend to be intertwined. Work gives individuals a feeling of being tied to a larger society, of having something to do and of having a purpose in life (De Klerk, 2005). According to Myers, Sweeney, and Witmer (2000), work is seen as a life task that is amenable to intervention – hence the importance of understanding wellness at work in order to make interventions available for optimal functioning and well-being at both individual and group level.

This research will investigate the relationship between sense of coherence, locus of control and coping in order to establish what potentially makes an employee perform well.

1.7.1 This study's contribution at a theoretical level

Hypothetically, this study could prove useful because of the potential relationship identified between a set of psychological constructs, namely coping, sense of coherence and locus of control. If significant relationships are found, the findings should prove useful in the development and maintenance of employee well-being in the workplace.

1.7.2 This study's contribution at an empirical level

At empirical level, the research could contribute to creating an empirically tested summary that could be used to appraise employee well-being in the workplace. The researcher believes that if no relationships were found between the constructs, then the expediency of this study would be limited to the elimination of coping, sense of coherence and locus of control as predictors of employee wellbeing.

1.7.3 This study's contribution at a practical level

At a practical level, if one could develop a better understanding of the paradigms of coping, sense of coherence and locus of control constructs, in considering the wellbeing of employees, the outcomes would justify the study. Positive outcomes of the research could include raising awareness of the fact that individuals in the workplace have different levels of coping, sense of coherence and locus of control and that each individual needs to be treated in a manner that is appropriate to him or her in order to promote job and career satisfaction, which would lead to better employee wellbeing. Another positive outcome is an understanding of the way in which employees' level of coping, sense of coherence and locus of control can influence their level of employee wellness.

Where empirically tested practical significant relationships are found, the findings could prove useful for future researchers in exploring the possibility of overcoming the effects of low levels of employee wellness. Furthermore, the research results could contribute to the understanding of the factors that influence employee wellness in the South African petrochemical context.

1.8 PARADIGM PERSPECTIVES OF THIS RESEARCH

1.8.1 Theoretical paradigm

This research falls into the humanistic paradigm, and more specifically the area of salutogenesis as well as positive psychology which will be discussed in more detail below.

1.8.1.1 Humanistic paradigm

Humanistic psychology emerged during the 1950s as a reaction to psychoanalysis and behaviourism, which dominated psychology at the time. Psychoanalysis was focused on understanding the unconscious motivations that drive behaviour, while behaviourism studied the conditioning processes that produce behaviour. Humanist thinkers felt that both psychoanalysis and behaviourism were too pessimistic, either focusing on the most tragic of emotions or failing to take into account the role of personal choice. Humanistic

psychology focused instead on each individual's potential and stressed the importance of growth and self-actualisation. The fundamental belief of humanistic psychology is that people are innately good and that mental and social problems result from deviations from this natural tendency (Maslow, 1968).

It is generally accepted that the field of humanistic psychology was initially led by Abraham Maslow and Carl Rogers, and the work of these two pioneers remains highly influential. Antonovsky (1987) himself referred to the work of Maslow and Rogers on numerous occasions in his own books, lectures and journal articles.

Antonovsky's work fits into an existential-humanistic paradigm (Glassman, 2000) owing to its focus on subjective experience, the nature of human existence and individual free will, action, choice, life meaning and judgement.

The research paradigm can be defined as: "The identification of the underlying basis that is used to construct a scientific investigation" (Krauss, 2005, p. 758).

Humanism is a group of philosophies and ethical perspectives which emphasise the value and agency of human beings, individually and collectively, and generally prefers individual thought and evidence (rationalism, empiricism) over established doctrine or faith (fideism). The term *humanism* can be ambiguously diverse, and there has been a persistent confusion between several related uses of the term because different intellectual movements have identified with it over time (Richard, 2004). According to Richard (2004), humanists also believe that it is necessary to study individuals as a whole, especially as they grow and develop over their lifespans. It follows that the study of the self, motivation and goals are areas of particular interest.

The humanistic approach recognises the influence of the mind on the body and advocates forms of healing that address both. Proponents of this paradigm see body and mind as being in constant communication, citing scientific research in the field of psychoneuroimmunology and elsewhere. Thus the humanistic paradigm insists that it is impossible to treat physical symptoms without addressing their psychological components (Keegan, 2002).

For this study, it can be concluded that “the humanistic approach is concerned with personality, formed by individuals’ personal view of themselves in their world and how this influences their thoughts, feelings and behaviour” (Keegan, 2002, p. 6).

1.8.1.2 Salutogenic paradigm

Salutogenesis emphasises health promotion and disease prevention rather than the pathogenic origins of disease (Wolff & Ratner, 1999). Antonovsky’s (1987) famous question; “Whence the strength?” characterises the key to salutogenic thinking and has since inspired much research into why some employees are able to cope successfully in spite of omnipresent stressors and other employees do not.

The term “salutogenesis” describes an approach focusing on factors that support human health and well-being, rather than on factors that cause disease. More specifically, the “salutogenic model” is concerned with the relationship between health, stress and coping (Antonovsky, 1979). Within this paradigm, life stressors are perceived as challenges, and this paradigm’s core concept, namely sense of coherence, postulates that health involves coping actively and positively, indicating its relevance to the current study (Rabin, Matalon, Maoz, & Shiber, 2005).

Antonovsky (1992, p. 33) defines the salutogenic paradigm as “the approach that seeks to explain health rather than disease – the salutogenic approach – focuses on coping rather than risk factors, survivors rather than the defeated, the invulnerable rather than the damaged”.

The following characteristics of the salutogenesis paradigm have been identified (Van Eeden, 1996):

- The salutogenesis paradigm investigates the deviant cases.
- The salutogenesis paradigm approaches stress differently than the pathogenic approach.
- The salutogenesis paradigm is a quest for strengths.

- Salutogenesis requires a continuum approach.

1.8.1.3 Positive psychology

Positive psychology is one of the branches of psychology that places the emphasis on the study of positive emotions, strengths, character, virtues and health, and it is known as the science of psychology, and has made great strides in understanding what goes wrong in individuals, families, groups and institutions. The focus of this construct is not just on fixing what is broken, but nurturing what is best (Leka & Houdmont, 2010).

Positive psychology emphasises the increased interest in positive aspects of change, including favourable outcomes that follow in the wake of change, and to some extent focuses on the three benefits of change. The field of psychology has historically devoted too much attention to pathology, weakness and damage and how to heal suffering. Positive psychology seeks to shift the field's focus away from negative experiences to building positive qualities. This theory further argues for increased well-being, hope, courage, perseverance, tolerance and other human strengths and virtues (Weiten et al., 2009) and provides guidelines suggesting ways to ensure optimal happiness, or resilience or optimal psychological development, maturity and moral reasoning (Biswass-Diener, 2011).

The movement in the direction of positive psychology is accompanied by a shift towards the study of psychological wellness. According to Kozma, Stones, and McNeil (1991), psychological wellness can fall within a broader field of study that examines some quality of life issues that share many common characteristics, such as life satisfaction, happiness and morale.

Seligman and Csikszentmihalyi (2000) initially defined the field of positive psychology at the subject level as comprising valued subjective experiences, namely past (well-being, contentment and satisfaction), present (flow and happiness), and future (hope and optimism). Later Seligman, Steen, Park, and Peterson (2005) described positive psychology as an umbrella term for the study of positive emotions, positive character traits and enabling institutions.

In 2006, positive psychology was defined by Linley, Joseph, Harrington, and Wood (2006, p. 5) as “the scientific study of optimal human functioning. It is about understanding the wellness, processes and mechanisms that lead to desirable outcomes.”

Positive psychology at individual level, is about positive individual traits: The capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent and wisdom. Positive psychology at group level, is about the civic virtues and the institutions that move individuals towards better citizenship – that is, responsibility, nurturance, altruism, civility, moderation, tolerance and work ethic (Seligman & Csikszentmihalyi, 2000).

An important notion in positive psychology is the view that focusing on a person's strengths is more beneficial than addressing his or her weaknesses (Scheuller, 2009).

Positive emotions are a vital component of wellness, and in addition to being indicators of success, they foster better social, occupational and physical functioning (Scheuller, 2009). Positive emotions expand the individual's ability to think of options and build personal resources. For example, positive emotions such as joy and contentment produce more thought and action than negative emotions such as fear and anger (Lopez, 2008).

1.8.2 Disciplinary relationship

The two principles in this study are those of industrial and organisational psychology, as the main discipline, and employee and organisational health and wellness as the subsystem.

1.8.2.1 Industrial and organisational psychology

Industrial and organisational psychology is the branch of psychology that applies psychological theories and principles to organisations. It is often referred to as I/O psychology. This field focuses on increasing workplace productivity and related issues such as the physical and mental well-being of employees (Truxillo, Bauer, and Erdogan, 2016).

Industrial and organisational psychologists perform a wide variety of tasks, including studying worker attitudes and behaviour, evaluating companies and conducting leadership training. The overall goal of this field is to study and understand human behaviour in the workplace (Munchinsky, 2000).

Industrial and organisational psychology as an applied division of psychology is both an academic and an applied field concerned with the study of human behaviour related to work, organisations and productivity in a particular type of location, that is, almost any kind of organisation (Cascio, 2001). In the academic field, different topics in the various subfields of industrial and organisational psychology are studied (both theoretically and empirically) to generate new knowledge and solutions, with a view to address the critical challenges and issues stemming from the particular socioeconomic contexts in which organisations are located. Applied industrial and organisational psychology uses the psychological principles and the new knowledge and solutions generated by research to solve problems in the work context (Bergh, 2009; Coetzee & Schreuder, 2010).

1.8.2.2 Employee and organisational health and wellness

Work wellness involves individuals using their abilities and talents to achieve purpose, happiness and enrichment in their working lives (Wicken, 2000). Work wellness is thus the extent to which an individual can express his or her values and gain personal satisfaction from paid and non-paid work; an individual's attitude towards work and ability to balance several roles; and the ways in which the individual can use his or her skills and abilities to contribute to the community (Roscoe, 2009).

The changing world of work has an influence on employees' wellness. Major hazards related to work wellness include cigarette smoking, which is still increasing worldwide. Job stress, unemployment, being overweight and type 2 diabetes are also increasing rapidly. Heart disease results primarily from high levels of stress. High blood cholesterol, suicide and homicide (related to alcohol, drugs and stress), accidents (alcohol use and stress) and cirrhosis of the liver (alcohol abuse) are also common (Edlin & Golanty, 2010). To cope with the demands of the changing world of work, employees have to retain a global mind set and the ability to move with chameleon-like ease from one event to another (Vance & Paik, 2006).

1.9 METHODOLOGICAL ASSUMPTIONS

An assumption is something that one assumes to be the case, even without proof. For example, people might make the assumption that someone is a nerd if he or she wears glasses, even though this may not always be true. From the Latin *assumptionem*, meaning “taking or receiving,” the word “assumption” was recorded circa 1300 as a noun describing “the reception of the Virgin Mary into heaven”. The word later shook its religious roots and developed into the noun we hear more often today, usually when a person takes something for granted or literally takes possession of something.

1.9.1 Theoretical assumptions

Based on the literature review, the following theoretical assumptions were addressed in this research:

- There is a need for basic research that seeks to isolate coping, sense of coherence and locus of control, on the one hand, and characteristics that are related to an individual’s well-being, on the other.

- Knowing individuals’ levels of coping, sense of coherence and locus of control increase understanding of the factors that may potentially inform their wellness in an organisation.

1.9.2 Methodological assumptions

A methodology is usually a guideline system for solving a problem, with specific components such as phases, tasks, methods, techniques and tools. It typically encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques. It can also be defined as follows (Irny & Rose, 2005):

- the analysis of the philosophies of methods, rules, and postulates employed by a discipline

- the methodical study of methods that are, can be, or have been applied within a discipline
- the study or explanation of methods

Research can be divided into two types, namely qualitative and quantitative research (Irny & Rose, 2005).

Methodological assumptions are beliefs concerning the nature of social science and scientific research. Methodological beliefs are more than methodological preferences, assumptions and presuppositions about what ought to constitute good research. There is a direct link between methodological beliefs and the epistemic status of research findings (Mouton & Marais, 1996). The main epistemological assumptions highlighted below are the methodological assumptions that affect the nature and structure of the research domain and these relate to methodological choices, assumptions and suppositions that make for good research.

1.9.2.1 Sociological dimension

The sociological dimension relates to the requirements of the sociological research ethic that makes use of a research community for its sources of theory. Within the bounds of the sociological dimension, research is experimental, analytical and exact, since the issues that are studied are subject to quantitative research analysis of variables and concepts described in the empirical research and the research results (Mouton & Marais, 1996).

1.9.2.2 Ontological dimension

The ontological dimension of research combines that which is investigated in reality. It relates to the study of human activities and institutions whose behaviour can be measured. This research measures properties of the constructs coping, sense of coherence and locus of control and employee wellness (Mouton & Marais, 1996).

1.9.2.3 *The teleological dimension*

This dimension suggests that the research should be systematic by nature with a direct focus on the goal. It is therefore important to state the problem that is being investigated and the relationship to the research goals (Mouton & Marais, 1996). The research goals are clear in this research, namely to measure the relationship between coping, sense of coherence and locus of control. Furthermore, in practical terms, the teleological dimension seeks to expand the field of industrial and organisational psychology and human resource management by providing it with knowledge that can enable an organisation to improve the wellness of its employees (Mouton & Marais, 1996).

1.9.2.4 *The epistemological dimension*

According to Mouton and Marais (1996), this dimension relates to the pursuit of truth. A primary aim of research in the social sciences is to generate valid findings which approximate reality as closely as possible. The researcher attempts to achieve this through a sound research design and the achievement of reliable and valid results.

1.10 CHAPTER LAYOUT

The chapter layout of this study is as follows:

CHAPTER	CHAPTER TITLE	CONTENT OVERVIEW
Chapter 1	General introduction	A discussion of the background to and motivation for the study, research questions and aims and research processes and methods
Chapter 2	Employees' wellness in the 21 st -century world of work	A review of journals, research reports and books on the topic
Chapter 3	Coping	A review of journals, research reports and books on the topic
Chapter 4	Locus of control and sense of coherence of employees	A review of journals, research reports and books on the topic

Chapter 5	Research methodology	A description of the study's research design, population and sampling, data collection, data analysis and validity and reliability of the constructs
Chapter 6		Research results Presentation of the statistical data and the finding.
Chapter 7	Conclusions, limitations and recommendations	Answers to the research questions, discussion of statistically significant findings and their implications and limitations, and recommendations for future research

1.11 SUMMARY

This chapter focused on the scientific orientation to the research. It also included a discussion of the background and motivation, the research problem, research questions, aims, the paradigm perspective, the research design and method. The chapter ended with the chapter layout.

Chapter 2 addresses and discusses research aim 1, namely employee wellness in the 21st-century world of work.

CHAPTER 2

EMPLOYEE WELLNESS IN THE 21stCENTURY WORLD OF WORK

2.1 INTRODUCTION

The aim of this chapter is to conceptualise employee wellness. In context of this study, employee wellness is explored in terms of how the employee's sense of coherence, locus of control and coping contribute to his or her sense of well-being. Employee wellness is a proactive and vibrant process where individuals become aware of their life choices and "response-ability", and then take the decision to lead a life that encourages wellness (Bradly, 2007). Employee wellness is a sensible and continuous process that leads to the improvement of individual, organisational and collective health and wellbeing (Van der Merwe, 2004). According to Crompton (2005), the expectations of wellness fall within the positive psychology paradigm. This paradigm indicates that positive psychology establishes a lifestyle that leads to a greater sense of wellness and satisfaction. It therefore encompasses positive emotions, character traits and enabling institutions that facilitate the attainment of the necessary sense of wellness and satisfaction (Seligman et al., 2005).

This chapter focuses on the definition of wellness, subjective and affective well-being, dimensions of well-being and wellness in the workplace. It concludes with a brief summary.

2.2 DEFINITION OF WELLNESS

The use of the term "wellness" varies greatly from background to background because it is a product of a rather complex formation process, a fact that makes a single definition of the term difficult (Human Resources Institute, 2011; Miller, 2005).

Wellness according to Arloski (2007) is the ongoing process that moves one along a continuum of experiencing greater and greater states of feeling better and becoming more self-aware.

Wellness is also known as "well-being". Well-being is the experience that occurs as one moves towards greater states of wellness (Arloski, 2007). Even though employee wellbeing has become a major subject in academic research, there is a significant discrepancy in defining and understanding the term "well-being" (Van de Voorde, 2009). According to Van de Voorde (2009), occupational well-being can be described as the quality of an employee's experience and performance at work. Furthermore, job stress or job satisfaction can be two variances of employee well-being at work. Firstly, subjective experiences and performance at work as a category embrace several elements like organisational commitment, job satisfaction, benefits and opportunities to grow. The other category contains occupation-related health, particularly physiological and psychological factors such as job stress (Van de Voorde, 2009). In this study the researcher focused more on the subjective experiences of occupation-related health.

Venart, Vassos, and Pitcher-Heft (2007, p. 50) state the following: "Wellness involves actively making choices to create and maintain balance, and to prioritise health of mind, body, and spirit."

Corbin and Lindsey (1997) agrees with Venart et al.'s (2007) definition of wellness as the goal of a proactive lifestyle that holds our general health, the totality of who we uniquely are and our connection to the greater communities or "systems" that define the world around us. Wellness is an active process of becoming aware of and making choices about a more successful existence. It is a multidimensional state of being, describing the existence of positive health in an individual as exemplified by quality of life and a sense of wellbeing.

Throughout the wellness revolution there have been many views which have attempted to define what wellness and its attributes really are. The definition of wellness has evolved in this process. Hill (2011) posits that wellness is a lifestyle choice and more specifically is of the opinion that wellness is health-promoting care that addresses people's bodies, minds, emotions, spirits, communities, and work by them making healthful lifestyle choices that keep them well in all these areas.

Conceptualising a definition of wellness could assist employers in confronting their needs and creating a healthier work environment. Through understanding how employees

define wellness, organisations are able to develop and increase wellness in the workplace (Arloski, 2007).

Keeping in mind that wellness is each individual's choice, for the purposes of this study wellness was described as a person's state of well-being that helps him or her to enhance his or her quality of life. Yet, the terms "health", "wellness" and "well-being" are used inconsistently in international literature and some terms are used interchangeably. Good health could simply mean the absence of illness. Wellness includes a more holistic approach and emphasises a wider continuum, that is, wellness is a state of being in good health, both physically and mentally, and of being free of (and not at risk for) illness (Gale Nutrition Encyclopedia, n.d.). In the context of this study, the concept of employees' wellness refers specifically to individuals' sense of coherence (SoC), sources of job stress and work engagement as aspects of their general well-being (Roslender, Stevenson, & Kahn, 2006).

2.3 SUBJECTIVE WELL-BEING AND AFFECTIVE WELLBEING

Subjective well-being (SWB) is a multifaceted construct encompassing affective and cognitive components (Busseri & Sadava, 2011). Cognitive wellness involves one's capacity for insight, intelligent thought and creative problem solving (Venart et al., 2007). According to Travis and Ryan (2004), cognitively healthy individuals are able to focus and concentrate, think affirming thoughts and transform self-defeating thinking patterns (Venart et al., 2007). Taken a step further, individuals need to recognise and deviate from "all or nothing" thinking, be cognitively flexible regarding professional topics, maintain curiosity, celebrate personal accomplishments, accept their own imperfections and engage in lifelong learning (Venart et al., 2007).

Affective well-being (AWB), however, refers to the frequency and intensity of positive and negative emotions and moods. Each concept is explained in more detail below.

2.3.1 Subjective well-being (SWB)

Diener and Chan (1984) defines SWB as the way in which people experience the quality of their lives, including both cognitive judgements or they create their own "subjective

"social reality" from their own personal perception of the input as well as emotional reactions. As an example, suppose you are walking in the veld and you see a lion. You begin to tremble, and your heart begins to race. Theory proposes that you will interpret your physical reactions and conclude that you are frightened ("I am trembling. Therefore I am afraid"). There is evidence that health and SWB may mutually influence each other, as good health tends to be associated with greater happiness (Steel, Schmidt, & Shultz, 2008).

There is a body of evidence suggesting that SWB is closely related to other variables which we might think of as representing high levels of effectiveness. According to Kahneman and Krueger's (2006) study, individuals with high SWB tend to

- smile more often
- show greater neurological activity in the portion of the brain associated with pleasure
- recover faster from wounds or injury and the common cold
- be judged as happier by those around them
- more frequently express positive emotions

There is evidence that SWB contributes to better health (Diener & Chan, 1984), the positive associations between health and SWB indicate that people who rate their general health as "good" or "excellent" tend to experience better SWB compared to those who rate their health as "fair" or "poor".

A study by Diener and Rober-Biswas Diener (2008) also reported that measures of SWB constructs such as optimism and positive affect predict longer-term health status and mortality. Conversely, a number of studies found that depression predicted poorer longer-term health status and mortality.

According to Hribernik and Mussap (2010), there are a number of areas that are thought to contribute to one's subjective well-being. Leisure satisfaction like vacation, relaxation and freedom was found to predict unique variance in life satisfaction, supporting its inclusion as a distinct life domain contributing to SWB.

Interventions to increase SWB are important, not only because it feels good to be happy, but also because happy people tend to volunteer more, have more positive work behaviour and exhibit other desirable characteristics.

In conclusion people who have a high level of satisfaction with their lives, and who experience a greater positive affect and little or less negative affect, would be deemed to have high levels of SWB, which is closely related to other variables and represents high levels of effectiveness.

2.3.2 Affective well-being (AWB)

AWB refers to feelings about either life in general (i.e. “context-free”), or affect in relation to a specific domain (i.e. job-related). Emotions and happiness are arguably the “primitive” (or first-order) conceptual bases of AWB.

While emotions and happiness are closely related, they are not identical to the AWB construct (Warr, 1990). Although some uncertainty remains as to whether happiness is an emotion, a cognitive evaluation, or a combination of both (Argyle & Martin, 1991), the majority of studies have treated “happiness” as an emotional state. Happiness is related to emotional states like hopefulness, optimism and contentment.

The practical nature of the contemporary definition of happiness originated in Bradburn (1969) and his colleagues’ study.

Job-related AWB is currently the closest available expression of happiness in the workplace.

Rothmann (2009) is of the opinion that AWB concentrates on work dedication and vitality, which characterise work engagement. Work dedication occurs when individuals have a strong involvement in their work, accompanied by feelings of enthusiasm and significance, and by a sense of pride and inspiration. Vitality refers to individuals wanting to invest high levels of energy, vigour and resilience in their jobs, not being easily fatigued and persisting in the face of difficulties. Individuals who are characterised by high levels of AWB such as high levels of work dedication, experience psychological meaning and

safety at work, can therefore endeavour to achieve a psychological and behavioural level in the work environment (Rothmann, 2009).

2.4 DIMENSIONS OF WELLNESS

According to the Human Resources Institute (2011), Butler (2001) and Hettler (1984) described six components of wellness, which are optimal (physical), emotional, spiritual, social, occupational and intellectual. The six dimensions are described as follows:

- *Optimal wellness* is met through the combination of good exercise and eating habits. The optimal dimension of wellness entails personal responsibility and care for minor illnesses and also knowing when professional medical attention is needed (Hettler, 1984).
- *Emotional wellness* is focused on the awareness and acceptance of one's feelings. Emotional wellness includes the degree to which one feels positive and enthusiastic about one's self and life. It includes the capacity to manage one's feelings and related behaviours including the realistic assessment of one's limitations, development of autonomy, and the ability to cope effectively with stress (Hettler, 1984).
- *Spiritual wellness* depicts our search for meaning and purpose in human existence. It is characterised by the peaceful harmony between internal personal feelings and emotions and the rough and rugged stretches of our paths.
- *Social wellness* is the social dimension that contributes to one's environment and community. It underlines the interdependence between others and nature. It actively seeks ways to reserve the beauty and balance of nature and makes wilful choices to enhance personal relationships and important friendships, and build a better living space and community.
- *Occupational wellness* is the dimension that sees personal satisfaction and enrichment in one's life through work. At the centre of occupational wellness is

the premise that occupational development is related to one's attitude about one's work. The choice of profession, job satisfaction, career ambitions and personal performance are all important components of this dimension.

- *Intellectual wellness* is an individual's creative, stimulating and mental activities. A healthy person expands his or her knowledge and skills while discovering the potential for sharing his or her knowledge and skills with others.

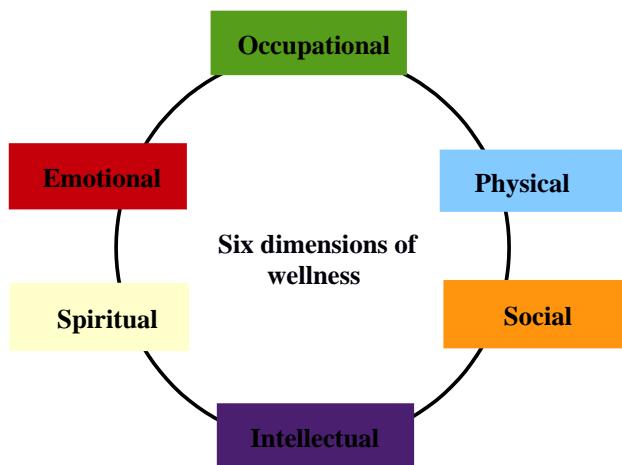


Figure 2.1. Graphical representation of the six wellness dimensions.

Source: Hettler (1984, pp 13–17)

Figure 2.1 depicts the six wellness dimensions used by Hettler (1984). Butler (2001) concurs with Hettler's (1984) in stating that the six wellness as described above. Applying a wellness approach can be useful in nearly every human endeavour (Hettler, 1984). By applying the dimensions of a wellness model, a person becomes aware of the interconnectedness of each dimension and how it contributes towards healthy living.

2.5 WELLNESS IN THE WORKPLACE

According to the World Health Organisation (WHO), workplace wellness is any workplace health promotion activity or organisational policy designed to support healthy behaviour in the workplace. Wellness is becoming increasingly popular, and organisations around the world are focusing their attention on developing and improving their working environment in such a way that employees' needs are met (Wheeler, 2011). Workplace wellness is where an employer originates health-promoting care that addresses the

employee's body, mind, emotions, spirits, communities and work through promoting healthful lifestyle choices and providing programmes, initiatives and incentives that encourage employees to keep well in all of these areas (Bradly, 2007). Workplace wellness has been expanded over the past decade to incorporate the overall creation of a "culture of health" within the worksite (De Vries & Thomas, 2010).

Over the past two decades, organisations have become progressively aware of the relationship between employee wellness and productivity (Cummings & Worley, 2009). According to Young and Lambie (2007), wellness may be important in order to increase resilience to job-related stress. The construct of wellness focuses on the whole health and well-being of the employee (Human Resources Institute, 2011; Panszczyk, Kennedy, & Turan, 2004). Failure to invest in an employee's wellness means a lost opportunity for the business, as staff members who feel fit and healthy, in other words, those who have increased wellness, will be empowered to produce high quality work, cope well with pressure and work in partnership with the organisation to achieve its goals (MacDonald, 2005).

Harter, Schmidt, and Hayes (2002) continue by adding that the well-being of one employee is in the best interest of not only the organisation but also the community, because one's work takes up the largest share of our lives. It is therefore crucial to attempt to promote employee wellness in the workplace. Wellness in an organisation can also be described as a salutogenic workplace. Salutogenic workplaces can be defined as workplaces or companies which follow an approach focusing on factors that support human health and well-being, rather than on factors that cause disease. Workplaces can benefit from salutogenic workplace interventions because they can result in a higher quality of products and services, more innovation, and a rise in productivity. Organising work in a salutogenic way is also a prestige factor which helps to improve the public image of a company and makes it more attractive as an employer (Vaandrager, Bakker, Koelen, Baart, & Raaijmakers, 2013).

Employee wellness is a broad concept and encompasses a number of workplace factors such as work engagement, productivity, dedication, commitment and loyalty (Keyes & Haidt, 2006). Within the overall sphere of wellness, employee engagement and dedication towards an organisation breed a higher frequency of positive affect such as

job satisfaction, commitment, joy, fulfilment, interest and caring. Positive affect then relates to the effective application of work, employee retention, creativity and ultimately business outcomes (Keyes & Haidt, 2006).

According to Mathis and Jackson (2010), employee engagement, one's involvement in work, commitment and work satisfaction have all been positively linked to retention, productivity, profits and sustainability. Engaged workers are willing to perform at levels beyond their specified job requirements. They are more customer focused, and produce higher quality and long-term financial results for the organisation. Employers perceive a healthy employee as being more productive, less likely to be absent from work and less likely to make sickness- or injury-related insurance claims (Covell, Walker, Siciliano, & Hess, 2007).

2.6 CONCEPTUAL MODEL FOR WELLNESS

The researcher decided to include this model in the current research because it includes three important interventions. According to a study at PricewaterhouseCoopers LLP (2008), a critical transference in thinking will lead employers to expand the concept of employee health beyond conditions acquired at work to any condition, which could potentially impact employee performance. This conceptual model for wellness includes the following three main types of interventions:

- *Prevention and promotion:* A variety of interventions that fall under the prevention and promotion banner include health promotion activities, work/life balance, time management schemes and primary care management.
- *Management of ill health:* These interventions focus mainly on "reactive interventions" such as occupational health, rehabilitation, long-term disability management, return to work schemes and absence management programmes.
- *Health and safety:* Are mostly driven by government policy initiatives and shaped by statutory necessities.

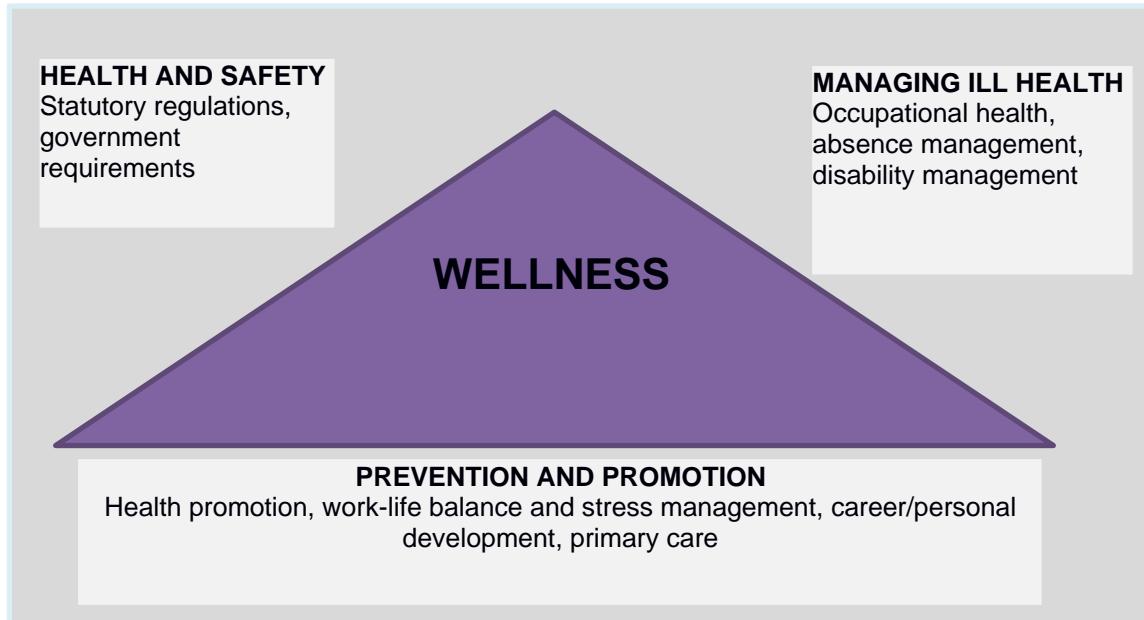


Figure 2.2 Three main types of wellness interventions Source:
PricewaterhouseCoopers LLP (2008, p. 10).

Through the incorporation of wider spectrums of promotion interventions outside of the traditional health responsibility, such as work/life balance initiatives, one contributes to the greater employee part of employee well-being (PricewaterhouseCoopers LLP, 2008). However, as explained in section 2.5, healthy employees contribute tremendously towards the organisation's success, and employee engagement towards an organisation to breed a higher frequency of positive affect like job satisfaction, commitment, joy, fulfilment, interest and caring.

2.7 EMPLOYEE ASSISTANCE PROGRAMMES (EAPs) IN THE WORKPLACE

An employee assistance programme (EAP), also known as an employee benefit programme, is offered by many employers. EAPs are intended to help employees deal with personal problems that might adversely impact their job performance, health and well-being (Willis, 2014; Benavides & David, 2010). In general, EAPs include short-term counselling and referral services for employees and their family members. Supervisors may also refer employees on the basis of unacceptable performance or conduct issues.

Since most companies consider their employees' well-being and overall health as a priority, they strive to increase productivity and improve service delivery (Benavides & David, 2010).

In the contemporary world, EAPs typically provide a broad range of work and life-related assistance for employees and their family members. EAPs are a popular wellness initiative through which organisations can offer their employees' mental, emotional and psychological health. EAPs can help employees with work-related and non-work related problems, which have the potential to interfere with their work performance such as relationship problems, alcohol or substance abuse and financial issues. The value and benefit of an EAP for an employer and employees is that they have an opportunity and a tool available to offer employees for treating personal problems before they have an irreparable effect on their workplace relationships or job status (Benavides & David, 2010).

In 2007, two researchers (Tony Buon and John Taylor) from the Robert Gordon University in Aberdeen, Scotland, conducted research on EAPs in Europe. EAPs date back to the 1960s and 1970s as in-house alcoholism programmes that strictly recognised a recovering alcoholic's executive alcoholics anonymous 12th step work (Willis, 2014; Buon & Taylor, 2008).

According to Buon, & Taylor, (2008), some studies indicate that offering EAPs may result in various benefits for employers, including lower medical costs, reduced turnover and absenteeism, and higher employee productivity. EAPs may also provide other services to employers, such as supervisory consultations, support to troubled work teams, training and education programmes, and critical incident services.

EAPs can help organisations, managers and employees recognise the signs of a problem that can impair work performance, before the problem affects other workers, and becomes a costly source of frustration and termination (Cahill, 2014; Buon, & Taylor, 2008).

According to Aldana (2001, p. 296), health promotion programmes are the "efforts that enrich awareness, change behaviour, and create environments that support good health".

Nowadays it is well-known among employers that the success of any organisation depends on its people. According to Mayo (2001), the management of employees as assets, combined with many conceptual elements of an employee's life cycle through the organisation has as its main focus the fact that people are a company's most important assets. People provide innovation and creativity and unlike organisational capital, human capital or people never really belong to the organisation. People can walk out the door at any time unless companies find ways to keep them there (Chenoweth, n.d.).

People in organisations are the drivers in every aspect of their operations, from technology and product design to distribution, networks and service delivery. There are several ways that organisational practices and employee well-being can improve the organisation, including increases in competitive advantage, performance, productivity, hiring selectivity, and customer satisfaction, and decreases in absenteeism, turnover, injury/accident rates, and health care costs (Anderson, Serxner, & Gold, 2001; De Joy & Wilson, 2003). One way in which organisations can build a competitive advantage is to improve the health status and well-being of their employees which can be achieved through successful EAPs. Employee health status directly influences employee work behaviour, work attendance and on-the-job performance. Hence, having effective EAP's in the workplace will develop healthier employees which will result in a more productive workforce (Chenoweth, n.d.).

In modern life, because much of a person's life is spent at the workplace, it is crucial for employees to work in an organisation that recognises the importance of their wellness and works towards developing a workplace that contributes to their happiness and wellbeing.

It is therefore essential for employers to consider all aspects of their employee's wellbeing when planning, constructing and implementing wellness programmes (EAP's).

Unfortunately, Lee, Blake, and Loyd (2010) have found that many organisations and policy makers do not see workplace wellness (EAP's) as being a crucial workplace priority, but rather as an extra that is "nice to have". Nevertheless, employers have a corporate responsibility for putting systems into place which allow their employees to make informed choices about their health and have the opportunity to act on them.

Organisations should never lose sight of the fact that the sole purpose of implementation of wellness programmes is to achieve a healthy work-life balance. The more forward-thinking organisations place work-life balance at the heart of their organisational culture, the more they will be rewarded with a positive and satisfied workforce (Hughes, 2007).

2.8 WHY HAVE HEALTHY EMPLOYEES IN THE WORKPLACE?

According to Kumar, McCalland, and Lybeck (2009), wellness enterprises have started to receive increasingly more attention as the focus has clearly indicated that wellness can harvest a financial return on investment in the organisation. A study conducted in the USA indicated that the cost of miserable and unhappy employees was 38 billion dollars per annum (Kumar et al., 2009). Of that cost, 37 billion dollars was the result of absenteeism, 15 billion the result of presenteeism and six billion the result of direct healthcare expenditures (Cahill, 2014; Afriforte, 2007).

Wellness is gaining popularity because of the realisation among employees and employers that the benefits of implementing wellness in organisations are endless (Kumar et al., 2009). If an organisation invests in wellness, a positive return on investment of roughly five dollars per one dollar invested on wellness, can be earned (Spaeder, 2008). A study done by Firky and Isaac (2010) disclosed that every dollar an employer invests in employee wellness produces an average of a two dollar decrease in absenteeism costs.

The current tendency to enhance wellness in organisations is aimed at helping employees cope more effectively with change and stress, which will contribute to reducing absenteeism, turnover cost and healthcare costs (Firky & Isaac, 2010).

The concept of wellness is not only gaining favour internationally, but also among South African organisations on account of the fact that employers are becoming more conscious of the health of their employees (Lockwood, 2010). According to a press release by Discovery Vitality in 2007, wellness programs are set to cut South Africa's annual absenteeism bill by 12 billion rand and improve productivity. In order to increase productivity, an organisation needs to strive to create a healthy work environment in which people can flourish (Aston, 2010).

2.9 IMPORTANCE OF WELLNESS IN THE PETROCHEMICAL INDUSTRY

Owing to a number of severe and fundamental changes that took place in the world of work across a relatively short period of time, technology has changed the manner in which the economy works. This, in turn, has changed the world of work (Vettori, 2007). According to De Klerk (2005), an individual's organisation or work is a significant part of his or her life, and thus a place where he or she seeks to find a sense of meaning. Work is therefore not simply a job, but an opportunity of great significance that serves other functions than simply earning a living (Cahill, 2014; De Klerk, 2005). Weiten et al. (2009) posit that a major challenge for workers today is balancing work, family and leisure activities.

As dual-earner families become the family norm, juggling multiple roles has emerged as a challenge.

Globalisation and increased economic competition are profoundly altering the way people live and relate to one another. The world of work has become unstable, with changes in global economic activity, technology and cultural practices (Deuze, 2007). In many recent accounts of work, work practice and career development, much is made of the disempowerment and anxiety caused by the constantly turbulent and uncertain nature of contemporary work (Billet, 2006). In South Africa, work demands have increased because of many factors, including the economic situation in the country (Van Zyl, 2002). The economic situation coupled with work demands leads to fears among employees, such as possible retrenchment, loss of income, the possibility that business or individual objectives will not be achieved and unhealthy competition between employees (Van Zyl, 2002). The global economic downturn has further demanded that employees utilise their time more efficiently.

For the petrochemical and larger corporate industries, the environment is characterised by long working hours, high work volumes, fast turnaround times and deadlines. In addition, the environment is fast paced and pressurised because of complex processes. Petroleum refining and the petrochemical industry play a paramount role in the current world economy. They provide the platform for transforming raw materials into many essential products in our lives, ranging from transportation and industrial fuels to basic

components for plastics, synthetic rubbers and many other useful chemical products. Economic growth and increasing populations will keep the global demand for such products high for the foreseeable future. According to the International Energy Agency (IEA, 2006), petroleum makes up 42.3% of the total energy consumption in the world. All of the above factors add to the difficulty that employers of such petrochemical industries have in recruiting suitable employees and then developing and retaining them as intellectual capital.

The environment is therefore fairly harsh, and besides developing skills and expertise, it may be valuable to investigate the relationship between wellness elements which could promote the optimal performance of employees. The conception of what makes a life good has an enormous impact on employees' psychological well-being. Since Aristotle, philosophers, religious leaders and humans have puzzled over what it is that qualifies as a good life. Positive psychology provides guidelines suggesting ways to ensure optimal happiness, or resilience or optimal psychological development, maturity and moral reasoning (Biswass-Diener, 2011).

The trend that employees need to work "smarter" not only applies to the petrochemical industries, but to all other competitive industries. This study therefore examined the relationship between coping, locus of control and SoC, in order to establish what potentially makes an employee perform well in these harsh working environments (Biswass-Diener, 2011).

Further, it seems that all three constructs are somehow related to the psychological wellness of the individual. The researcher believes that, if the petrochemical organisation is able to identify potential leaders or talented individuals early in the recruitment or succession planning process, it will be able to channel the necessary resources into their development, thereby creating efficiencies in the identification process of current and future leaders. The findings may also assist the petrochemical organisation to form a holistic idea of all the skills an individual requires to perform the job well.

Lastly, the researcher also wishes to add that the responsibility of a wellness-oriented working environment does not solely sit with the employer. Since it is also the responsibility of the employee to choose an organisation that contributes to his or her

general well-being, the individual should be able to choose work that will enable him or her to fulfil his or her interests and where he or she can be truly engaged (BiswassDiener, 2011).

2.10 SOUTH AFRICAN LABOUR LEGISLATION RELATING TO WELLNESS IN THE WORKPLACE

Wellness in South Africa is not explicitly covered by South African law, but there is legislation in place that protects an employee's wellness and wellbeing. These laws are set out below.

2.10.1 The Labour Relations Act 66 of 1995

According to the Labour Relations Act (LRA) 66 of 1995 employees are protected against dismissal due to incapacity or ill health. If an employee is temporarily unable to work, the employer should investigate the extent of the incapacity or the injury. If the employee is likely to be absent for a time that is unreasonably long in the circumstances, the employer should investigate all of the possible alternatives short of dismissal (Finnemore & Joubert, 2013).

In cases of permanent incapacity, the employer should ascertain the possibility of securing alternative employment, or adapting the duties or work circumstances of the employee to accommodate the employee's disability.

Particular consideration should be given to employees who are injured at work or who are incapacitated by work-related illness. The courts have indicated that it is the duty of the employer to accommodate the incapacity of the employee (Finnemore & Joubert, 2013).

2.10.2 The Compensation for Occupational Diseases and Injuries Act

The Compensation for Occupational Diseases and Injuries Act provides for compensation for disablement caused by occupational injuries or diseases sustained or contracted by employees in the course of their employment, or for death resulting from such injuries or diseases; and provides for matters connected to these (Finnemore & Joubert, 2013).

2.11 SUMMARY

In summary, despite the increasing awareness and popularity among managers of organisations, wellness is not thoroughly understood or appropriately implemented. Wellness is essential to proper functioning, and a healthy environmental setting has to be created to stimulate well-being.

It is therefore necessary to understand the need for integrating wellness into occupational settings (De Klerk, 2005).

The purpose of this study is to assist employers and employees in a petroleum company to better understand the concept of wellness. Employees play a central role, and their participation is a core principle. Workplaces can benefit from salutogenic workplace interventions because in the long run they can result in a higher quality of products and services, more innovation and increased productivity. Furthermore, a salutogenic perspective results in finding a good fit between the aspirations, capacities and passions of employees and their working environment. Organising work in a salutogenic way is a prestige factor which helps to improve the public image of a company and it makes it more attractive (Vaandrager et al. 2013). There are many benefits for employees as well. Hypothesizing their own definitions of wellness could assist employers in addressing the needs of employees, thereby creating a healthier work environment. Through understanding how employees define wellness, organisations should be able to improve wellness in their work environment.

Implementing wellness in the workplace leads to increased satisfaction among employees. As mentioned in this chapter, work is important for the creation of individual and collective identities. Besides good social relationships, salutogenic interventions in the workplace produce safe and healthy work environments, leading to enhanced job control and task significance.

In chapter 3 the dependent variable, namely coping, will be discussed.

CHAPTER 3

COPING

3.1 INTRODUCTION

This chapter deals with the definition of coping, the approaches of coping, and the conceptualisation and different coping strategies. Coping is the independent variable of the study and was also used as part of the measuring instruments, for that reason this chapter was included in the study. Furthermore, the effectiveness and ineffectiveness of coping, coping models and the significance of coping in the workplace are explored. The chapter concludes with a brief summary.

Coping research is important because it may help explain why some people fare better than others when encountering stress in their lives (Herzberg, 2013; Folkman & Moskowitz, 2004). Certain factors such as age, culture, gender and prior experience can contribute to an individual's response to stress. Unlike these other factors, however, coping lends itself to cognitive and behavioural involvement, allowing the individual to develop techniques and strategies to deal with situations that might be considered stressful (Romeo, 2013; Folkman & Moskowitz, 2004).

3.2 DEFINITION OF COPING

Coping is defined as an individual's response to a stressor or stressful situation (Herzberg, 2013; Parker & Endler, 1996). In a long line of theoretical and empirical work, Lazarus and Folkman (1984, p. 141) have formulated a definition of coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as challenging or exceeding the resources of the person". Further, most researchers also agree that coping is a conscious process whereby the individual negotiates both personal and environmental demands to deal with the stressor he or she is faced with (Herzberg, 2013; Haan, 1992; Latack, 1986).

For the purposes of this research the definition of coping of Carver and Scheier (1999) was used. According to them, coping can be seen as the direct response that follows a stressful experience.

3.3 COPING APPROACHES

The concept of coping was studied formally during the 1960s and 1970s, along with the increasing interest in stress. If one thinks of coping as a generic concept that includes ego defences, which deal with threats to one's psychological integrity, then the psychoanalytic interest in defence was clearly its forerunner (Lazarus & Folkman, 1987).

The history of research on coping is viewed according to three different approaches, namely coping as a defence mechanism, personality and coping as a construct, and competent individuals who apply coping strategies. These approaches are explained below.

3.3.1 Coping as a defence mechanism

Firstly, the psychodynamic tradition that spanned the late 19th century and early to midtwentieth century maintained that coping was mainly a defence mechanism and entailed the ways in which individuals adjust the meaning of a stressful event. A defence mechanism is the act or technique of coping mechanisms that reduce anxiety generated by threats from unacceptable or negative impulses (Schacter, 2011). This idea led to the conception that individuals may have a preference for certain strategies when managing these stressful encounters (Dewe, O'Driscoll & Cooper, 2010). Defence mechanisms, which are unconscious, are not to be confused with conscious coping strategies (Kramer, 2009).

3.3.2 Defence mechanisms

Most defence mechanisms are fairly unconscious, which means that most of us do not realise that we are using them in the moment. Some types of therapy can help a person become aware of what defence mechanisms he or she is using, how effective these

mechanisms are, and how to use less primitive and more effective mechanisms in the future (Grohol, 2007).

According to Grohol (2007), some simple defence mechanisms include the following:

- denial or the refusal to accept reality or fact, acting as if a painful event, thought or feeling does not exist;
- regression, which is the return to an earlier stage of development in the face of unacceptable thoughts or impulses;
- acting out or performing an extreme behaviour in order to express thoughts or feelings;
- detachment, which means a person loses track of time and/or person, and instead finds another representation of his or her self in order to continue in the moment;
- compartmentalisation, which is a lesser form of dissociation, where parts of oneself are separated from awareness of other parts and behaving as if one has a separate sets of values;
- projection, which is the misattribution of a person's undesired thoughts, feelings or impulses on to another person who does not have those thoughts, feelings or impulses;
- reaction formation, which involves adapting of unwanted or dangerous thoughts, feelings or impulses into their opposites.

Defence mechanisms are distinct from coping strategies in the sense that the former are largely unconscious mechanisms which are activated in times of anxiety, stress and distress without any choice or conscious intentionality, while the latter are conscious strategies that are chosen in calm emotional states. According to Utah Psych (2013), defence mechanisms may result in healthy or unhealthy consequences, depending on the circumstances in which and frequency with which the mechanism is used.

3.3.3 Personality and coping as a construct

According to the second approach, personality may directly facilitate or constrain coping, but relationships between personality and coping have been inconsistent across studies (Bolger, 1990). Coping has been labelled as “personality in action under stress” (Bolger, 1990, p. 525), pointing to the fact that personality characteristics and coping styles are closely intertwined. Under stress, some people become distressed or perform poorly, whereas others remain resilient. Coping theorists assume that these outcomes result from people’s coping efforts used to alter the stressful situation or to regulate their emotional reactions (Cheng, Tsui, & Lam, 2015; Lazarus & Folkman, 1984).

Academics have suggested that “coping ought to be redefined as a personality process” (Vollrath, 2001, p. 341). These ideas have been supported by evidence that personality and coping have a shared genetic basis (Kato & Pedersen, 2005). However, the even direction of the relationships between personality and coping has varied, with many failing to demonstrate predictable relations, despite adequate statistical power and use of reliable and valid measures (Kato & Pedersen, 2005). These inconsistencies suggest that relations between personality and coping may be more uncertain than has been assumed (Albin, Lucyshyn, Horner, & Flannery, 1996). Carver and Connor-Smith (2010, p. 695) explain that “despite hundreds of studies, the influence of personality on coping and of both on outcomes, are only partly understood.” For example, how do various personality characteristics interact when an individual is confronted with a particular stressful situation? What happens to personality and coping under certain circumstances? What determines our coping behaviour under certain circumstances?

(Carver & Connor-Smith, 2010).

3.3.4 Competent individuals apply coping strategies

The third approach is to investigate how competent individuals are able to apply coping strategies. Individuals who are wealthy, healthy, capable and optimistic are seen as resourceful, and are thus less vulnerable towards the stress of life which in turn will help them to deal with specific interpersonal demands. It is essential to feel competent to handle a stressful situation (Cheng, Tsui, & Lam, 2015; Bandura, 1992). According to Bandura (1992) and Cheng, Tsui, & Lam (2015), it is essential for an individual to be

competent to handle a stressful situation. If the individual underestimates his or her potential for action, no adaptive strategies will be developed to enable him/her to cope sufficiently with a given stressful situation. Therefore, perceived competence, which is also labelled as perceived self-efficacy or optimistic self-belief (Bandura, 1992; 1995) is crucial. This approach further explores whether it is possible that earlier events may influence personality as well as how personality may shape positive meanings and assist in finding benefits in stressful situations (Cheng, Tsui, & Lam, 2015; Suls & Davis, 1996). The effects of self-efficacy lead to the belief that cognitive processes take a diversity of forms. Human behaviour, which is purposive, is regulated by forethought embodying cognised goals. Personal goal setting is influenced by self-appraisal of capabilities. The stronger the perceived self-efficacy, the higher the goal challenges people set for themselves and the stronger their commitment is to achieve them (Bandura, 1992).

3.4 CONCEPTUALISATION OF COPING

Over decades, coping has been defined in different ways. Firstly, it was defined as an individual's cognitive and behavioural efforts and responses to reduce, minimise, master or tolerate both internal and external demands that the environment presents. These demands can be seen as an extreme challenge to the individual's available resources (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). According to Lazarus (2001), in order to define coping from this perspective, one should understand coping as a process and this must be understood within the transactional terms of context and appraisal.

For many observers, Lazarus's (2001) definition limits coping to decisive strategies initiated in the context of the stressful encounter (Dewe et al., 2010; Coyne & Gottlieb, 1996;). Zeidner and Saklofske (1996) maintain that defining coping successfully, requires some interpretation of what the person was trying to do and other concepts such as adaptation and adjustment. Coping not only depicts individuals' role in the process of dealing with the demands that adversity actually brings into their lives, but also has the potential to consider how these ongoing encounters shape further development.

According to Bowen (2000), stress can have many reflective effects on human biological systems. Biology primarily attempts to explain the major concepts of stress using a stimulus-response paradigm, broadly comparable to how a psychobiological sensory

system operates. The central nervous system (brain and spinal cord) plays a crucial role in the body's stress-related mechanisms and works closely with the body's endocrine system (collection of glands of an organism that secrete hormones) to regulate these mechanisms. The sympathetic nervous system becomes primarily active during a stress response, regulating many of the body's physiological functions in ways that ought to make an organism more adaptive to its environment (Cheng, Tsui, & Lam, 2015; Bowen, 2000).

Stress is described as a negative experience, accompanied by predictable emotional, biochemical, physiological, cognitive and behavioural accommodations (Baum, 1999). Coping is the process of attempting to manage the demands created by stressful events that are appraised as taxing or exceeding a person's resources (Lazarus & Folkman 1984). These efforts can be both action oriented and intrapsychic – that is, they seek to manage, master, tolerate, reduce or minimise the demands of a stressful environment (Lazarus & Launier, 1978). Coping resources can aid in this process (Lazarus & Launier, 1978). These resources include relatively stable individual differences in optimism, a sense of mastery, self-esteem and social support. Coping resources, in turn, affect coping processes, specifically ones marked by approach, such as taking direct action or confronting emotional responses to a stressor, and those marked by avoidance, such as withdrawal or denial.

Coping efforts may be adaptive or maladaptive and the form that coping processes assume affects how successful resolution of a stressor will be (Holodynski & Friedlmeier 2006). Research on coping largely focuses on individual differences, examining the links between different strategies and a range of outcomes in an attempt to identify adaptive and maladaptive patterns. Many ways of coping have been considered including problem-solving (when faced with a new problem, the COPE method can be used to reach a solution, challenge or identify the problem, opt or select the best option, plan to act on one's option and evaluate the progress), support-seeking (support can come from many sources, such as family, friends, pets, co-workers, and organisations) and escape (the effort to avoid dealing with a stressor). Further ways of coping include rumination (compulsively focusing attention on the symptoms of one's distress), positive restructuring (seeking positive thoughts and self-talk), distraction (something that takes one's attention away from what one is supposed to be doing), negotiation (parties

intended to reach an understanding, to satisfy various interests), direct action (facing a problem directly), social withdrawal (a complete or near-complete lack of contact with people) and helplessness (unable to help oneself; weak or dependent). These ways of coping have been assessed using a number of methodologies, most commonly openended interviews, observations and self-report questionnaires.

While adaptive coping methods improve functioning, a maladaptive coping technique will merely reduce symptoms, while maintaining and strengthening the disorder. Examples of maladaptive behaviour strategies include dissociation (a mental process where a person disconnects from his or her thoughts, feelings, memories or sense of identity), sensitisation (the process of making someone react to something that previously had no effect), safety behaviours (these are those things that one does to try and avoid embarrassment in front of others) and anxious avoidance (extreme shyness, feelings of inadequacy and sensitivity to rejection) (Holodynski & Friedlmeier, 2006). Emotion is integral to all phases of the coping process, from vigilance, detection, and appraisals of threat to action readiness and coordinating responses during stressful encounters. However, adaptive coping does not rely exclusively on positive emotions or on constant dampening of emotional reactions. In fact, emotions like anger have important adaptive functions, such as readying a person to sweep away an obstacle, and communicating these intentions to others (Holodynski & Friedlmeier 2006).

3.5 COPING STRATEGIES

Coping strategies refer to the specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce or minimise stressful events (Folkman & Lazarus, 1980). In this section, the main coping strategies and primary coping strategies are discussed.

3.5.1 Main coping strategies

Rothmann and Malan (2004) state that the development of coping strategies can be divided into different developmental stages of a person's lifespan. In early years, studies on the development of coping have mainly examined defensive mechanisms and coping strategies. Research, however, has moved to coping and adaptive strategies and

emotion regulation during adulthood (Carstensen, Mikels, & Mather, 2006). Although different researchers use slightly different terminology to define the major methods people use to cope with adversity, failure and stressful situations, there does appear to be a common thread in the research (Wijndaele, Duvigneaud, Lefevre, De Bourdeaudhuij & Duquet, 2007).

Until recently, hundreds of coping strategies have been identified (Carver & Connor-Smith, 2010). Classification of these strategies into a broader construction has not yet been agreed upon. Common distinctions, however, are often made between various contrasting strategies – for example, problem-focused versus emotion-focused, engagement versus disengagement, and cognitive versus behavioural (Carver & Connor-Smith, 2010), which will be discussed in more detail below.

3.5.1.1 Problem-focused coping

Lazarus and Folkman (1987) further divide coping into problem-focused coping (efforts to change or master the environment causing stress) and emotion-focused coping (efforts to change the individual's emotional response to the stressor).

According to Weiten and Lloyd (2008), problem-focused strategies are directed at reducing or eliminating a stressor, that is, they are adaptive behaviour. People using problem-focused strategies try to deal with the cause of their problem. They do this by finding out information on the problem and learning new skills to manage the problem. Problem-focused coping is aimed at changing or eliminating the source of the stress. The three problem-focused coping strategies identified by Folkman and Lazarus (1984) are (1) taking control of the problem, (2) seeking information on the problem, and (3) calculating the pros and cons of the problem. Arsenio, & Loria (2014) and Wijndaele et al. (2007) recently concluded that problem-focused coping is the most effective at reducing psychological distress in the general population.

Problem-focused coping is directed at eliminating an unpleasant experience or reducing the effects thereof (Arsenio, & Loria, 2014; Carver, Scheier, & Weintraub, 1989). Problem-focused coping focuses on changing or modifying the central cause of the

stress. This can be an effective method of coping when it is practical, and the stressor is variable or adaptable (Arsenio, & Loria, 2014; Laureate Education, 2012).

The effectiveness of problem-focused coping depends on whether the stressor can be managed by changing it (Laureate Education, 2012). Carver (2011) found that problem-focused coping has a biological effect on stress, lowering cortisol levels and promoting recovery from the stress. However, this coping strategy is ineffective when an individual cannot make an adjustment to the stressor or he/she cannot exert control over a specific circumstance or stressor (Cheng, Tsui, & Lam, 2015; Carver, 2011).

Carver et al. (1989) distinguish between the following five variations of problem-focused coping:

- (1) *Approach / active coping.* Active coping refers to ways of coping that focus on trying to control pain or to function despite pain (taking active steps to remove stressors or to reduce their effects). Active coping strategies can include things like activity management or distraction (Brown & Nicassio, 1987). For example, Hoyt, Stanton, Irwin, and Thomas (2013) found that emotional approach coping was associated with lower symptoms of psychological distress than earlier measures of emotion-focused coping, which often include items related to letting feelings out inappropriately (e.g. crying, worrying).
- (2) *Planning.* Coping planning takes place when people imagine scenarios that hinder them from performing their intended behaviour (thinking about various strategies which could be used to solve a problem) (Scholz, Schüz, Ziegelmann, Lippke, & Schwarzer, 2008).
- (3) *Suppressing competing activities.* This refers to putting other projects aside and trying to avoid distractions from other events in order to deal with stressors (Rothmann, Jorgensen, & Marais, 2011). This is a coping strategy that involves purposefully trying not to think about something emotionally arousing or distressing (moving other projects temporarily to the background) (Carver et al., 1989).

- (4) *Avoidant/pассив/restraint coping.* Restraint coping includes behaviours that reduce stress by distancing oneself from the problem. Restraint coping or coping passively by holding back one's coping attempts until they can be of use (waiting for the right opportunity to solve a problem rather than acting impulsively) (Carver et al., 1989). Avoidance coping usually includes three scales, namely denial, and behavioural and mental disengagement. It also suggests that one of these avoidance coping strategies (expressing emotions) contributes to disengagement at work (Rothmann et al., 2011).
- (5) *Seeking social support for instrumental reasons.* Instrumental support refers to the various types of tangible help that others may provide (looking for advice, support or information) (Carver et al., 1989; Rothmann et al., 2011).

3.5.1.2 Emotion-focused coping

Emotion-focused coping strategies have been seen to be effective in the management of unchangeable stressors (De Graff & Schaffer, 2008). These coping mechanisms involve a cognitive reappraisal process that includes self-reflection and taking control over one's emotions (Carver, 2011).

Emotion-focused strategies are directed towards changing one's own emotional reaction. These strategies involve releasing pent-up emotions, distracting oneself, managing one's hostile feelings and contemplation or using systematic relaxation procedures. Emotion-focused coping is oriented toward managing the emotions that accompany the perception of stress (Brannon & Feist, 2009).

Rather than changing the problem, as in problem-focused coping, emotion-focused coping examines the emotional response to the stressor.

As stated above, emotion-focused coping is a mechanism to lessen distress by minimising, reducing or preventing the emotional components of a stressor (Carver, 2011). This mechanism can be applied through a variety of means, such as seeking social support, reappraising the stressor in a positive light, accepting responsibility, using

avoidance, exercising self-control and distancing (Carver, 2011). The focus of this coping mechanism is to change the meaning of the stressor or transfer attention away from it. Avoidance of the emotional distress distracts from the negative feelings associated with the stressor. This type of coping is well suited to stressors that seem uncontrollable (e.g. a terminal illness diagnosis or the loss of a loved one) (Carver, 2011).

Carver et al. (1989) distinguish between the following five variations of emotion-focused coping:

- (1) *Seeking social support for emotional reasons.* Social support is the perception and actuality that one is cared for, has assistance available from other people, and that one is part of a supportive social network (reaching out to others for moral support, sympathy and understanding) (Carver, et al., 1989; Rothmann et al., 2011).
- (2) *Positive reinterpretation and growth.* Positive reinterpretation aims to deal with distress emotions rather than dealing with stressors. However, it might also lead employees to reconstruct situations positively (Rothmann et al., 2011). It involves managing stress emotions rather than the stressors by reinterpretation (Carver et al., 1989).
- (3) *Denial.* Denial is the refusal to accept reality or fact (experiencing stressors as unreal), acting as if a painful event, thought or feeling does not exist (Carver et al., 1989) or pretending that the stressors are not present or that they are not causing any significant distress (Rothmann et al., 2011).
- (4) *Acceptance.* Acceptance means that employees accept the reality of stressful situations (Rothmann et al., 2011). Statements such as "It's going to be okay"; "I can't fight it, I may as well prepare for it" denote accepting the stressors as reality (Carver et al., 1989).
- (5) *Turning to religion.* One of the most common ways that people cope with trauma is through the comfort found in religious or spiritual practices (Pargament, 1997) (focusing on religion to facilitate emotional support, positive reinterpretation as well as active coping). This might serve as a source of emotional support, as a way of

reinterpreting stressful situations in positive terms and as a tactic to deal actively with stressors (Rothmann et al., 2011).

Some mechanisms of emotion-focused coping, such as distancing or avoidance, can have alleviating outcomes for a short period of time, but disadvantageous outcomes are also possible. Positive emotion-focused mechanisms, such as seeking social support, and positive re-appraisal, are associated with beneficial outcomes (Ben-Zur, 2009). Fredrickson and Levenson (1998) posit that positive emotions signal the presence of optimal well-being. Yet, they also state that positive emotions not only make people feel good at a particular point in time, but that they may also produce future well-being.

3.5.1.3 Cognitive-behavioural coping

Cognitive coping strategies are defined as “the cognitive way of managing the intake of emotionally disturbing information” (Thompson, 1991), involving thoughts or cognitions that help to manage or regulate emotions. It is the personal interpretation of a situation (Yap & Tong, 2009).

Appraisals are used in the workplace to evaluate the personal well-being of workers. Appraisals are immediate and spontaneous evaluations that people utilise to make sense of events (Yap & Tong, 2009).

Cognitive appraisals determine if an event will be perceived as stressful. This coping strategy is the process by which an individual determines whether an interaction or incident is relevant to his or her well-being (Folkman, Lazarus, Dunkel-Schetter, Delongis, & Gruen, 1986, p. 992).

Typically, people will use a mixture of all three types (emotion focused, problem focused and appraisal focused) of coping strategies, and coping skills usually change over time. All these methods can prove useful, but some claim that those using problem-focused coping strategies will adjust better to life (Taylor, 2006). Problem-focused coping mechanisms may allow individuals greater perceived control over their problems, whereas emotion-focused coping may sometimes lead to a reduction in perceived control (maladaptive coping) (Taylor, 2006).

3.5.2 Primary coping strategies

Primary coping strategies can be organised into two categories, namely engagement or disengagement strategies. In general, using disengagement coping strategies is associated with negative psychological outcomes, whereas using engagement coping is associated with less psychological distress (Snell, Siegert, Hay-Smith, & Surgenor, 2011; Compas, Connor-Smith, Osowiecki, & Welch, 1997).

3.5.2.1 Engagement coping

Engagement strategies involve the individual in active efforts to manage aspects of the stressful person/environment transaction with the individual engaging in active efforts to control, manage or change stressful circumstances, as well as managing emotional responses to the stressor (Snell, Siegert, Hay-Smith, & Surgenor, 2011; Tobin, Holroyd, Reynolds, & Wigal, 1989).

Engagement coping represents efforts to change aspects of oneself to accommodate to the situation, and includes such strategies as positive thinking, cognitive restructuring, acceptance and distraction (Compas et al., 2006).

Engagement coping may also replicate, in part, increased cognitive and behavioural efforts to control, change, resolve and adapt to stressors emerging from generalised expectancies for favourable outcomes (Carver et al., 2010).

According to Hickle, & Anthony (2013) and Hickman (2003), individuals who make use of engagement coping strategies to deal with stress report lower levels of depression and global distress, and higher levels of life satisfaction. Specific engagement strategies, such as cognitive reappraisal, may protect individuals from the pathogenic effects of acute transition stressors by modulating psychobiological responses to stressors initially appraised as threatening (Taylor & Stanton, 2007).

3.5.2.2 Disengagement coping

Disengagement coping strategies are likely to disengage the individual from the person or his or her environment (Jones & Bright, 2001). It embodies efforts to avoid or distance oneself from the source of stress, and includes strategies such as denial, avoidance, anxiety, emotional distress and a less positive state of mind (Gonzalez,, Zvolensky, Solomon & Miller, 2010). Sometimes disengagement coping is almost literally an effort to act as though the stressor does not exist, so that it does not have to be reacted to, behaviourally or emotionally (Hickle, & Anthony, 2013; Carver et al., 2010).

From the above, a clear particular and important distinction can be made between engagement and disengagement coping. Engagement coping includes problem-focused coping and some forms of emotion-focused coping such as support seeking, emotion regulation, acceptance and cognitive restructuring, whereas disengagement coping includes responses such as avoidance, denial and wishful thinking. Disinterment coping is often emotion focused, because it involves an attempt to escape feelings of distress.

3.5.3 Other coping strategies

According to Brannon and Feist (2009), anticipating a problem is known as proactive coping. Anticipation is when one reduces the stress of some difficult challenge by anticipating what it will be like and preparing for how one is going to cope with it.

Other coping mechanisms are social coping, such as seeking social support from others, and meaning-focused coping, in which the person concentrates on deriving meaning from the stressful experience (Hickle, & Anthony, 2013; Brannon & Feist, 2009).

Yet another way of coping is avoiding thoughts or circumstances that cause stress (Schacter, et al., 2011). Avoidant coping can be positively linked to stress, anxiety and depressive symptoms as it fails to remove minor stressors (Wijndaele et al., 2007; Holahan, Holahan, Moos, Brennan, & Schutte, 2005). After a period of time, these stressors may become bigger, leading individuals to experience an enduring pattern of stress and consequently greater psychological distress (Holahan et al., 2005). For example, an individual may encounter a stressor such as a difficult assignment or work

project and decide to cope with it by ignoring the upcoming deadline. Over a period of time he or she experiences greater distress as he or she is unable to complete the task in time. Individuals who engage in avoidant coping may also experience greater distress as they are less likely to engage in adaptive coping strategies such as problem-focused coping (Crockett, Iturbide, Torres Stone, McGinley, Raffaelli, & Carlo, 2007).

3.6 EFFECTIVE AND INEFFECTIVE COPING

There have been many efforts made to identify effective coping behaviours, usually referred to as adaptive coping. Effective coping refers to coping strategies that produce beneficial outcomes for the individual, such as increased self-esteem or decreased emotional distress (Lazarus, 1991; Zeidner & Saklofske, 1996). Such terminology also suggests that individuals vary their coping responses to meet or match environmental characteristics or demands (Hickle, & Anthony, 2013; Lazarus, 1991; Lazarus & Folkman, 1984).

Adaptive coping responses are those that remove or lessen both fear and the danger of a threat, and lead to reduced anxiety and constructive, healthy psychosocial and physical outcomes for the individual (Giancola, Grawitch, & Borchert, 2009). The likelihood that an individual will choose an adaptive versus maladaptive coping response is influenced greatly by his or her past experience (Tanner, Hunt, & Eppright, 1991) and by the result of a cognitive appraisal of the situation.

Appraisal-focused or adaptive strategies are directed towards challenging one's own assumptions, both adaptive and cognitive. Appraisal-focused strategies occur when the person modifies the way he or she thinks – for example, employing denial or distancing oneself from the problem. People may alter the way they think about a problem by altering their goals and values, such as by seeing the humour in a situation and "some have suggested that humour may play a greater role as a stress moderator among women than men" (Worell, 2001, p. 603).

By contrast, ineffective or maladaptive coping efforts are not considered beneficial to the individual. Indeed, maladaptive coping refers to coping efforts that either do not produce an adaptational outcome or produce a detrimental outcome for the individual such as

increased negative affect or loss of sleep (Kohler & Munz, 2006). An example of ineffective or maladaptive coping is to use substances such as alcohol or illicit drugs as a frequent source of tension reduction in response to stressors, which may lead to more severe problems in the long term, such as alcoholism (Rehm, Taylor, & Room, 2006).

Maladaptive coping strategies may be perceived to be beneficial in the short term. For instance, if a selected coping strategy, such as avoidance or denial, is inefficient in resolving a traumatic stressor, yet it provides temporary relief from distress, then that maladaptive coping behaviour has a greater likelihood of being reinforced and recurring (Littleton, Axsom, & Grills-Taquechel, 2011). To the extent that a maladaptive coping behaviour is reinforced, it becomes more difficult for an individual to shift to more adaptive and effective forms of coping (Tanner et al., 1991).

According to Carver (1997), some types of ineffective or maladaptive coping may include the following:

- focusing on and venting of emotions or the tendency to focus on whatever distress or upset one is experiencing and to vent those feelings, for example “I get upset and let my emotions out” (Scheff, 1979);
- behavioural disengagement, giving up or withdrawing effort from the attempt to reach the goal with which the stressor is interfering;
- mental disengagement or the psychological disengagement from the goal with which the stressor is interfering, say, through daydreaming, sleep or selfdistraction;
- alcohol-drug disengagement when turning to the use of alcohol and other drugs as a way of disengaging from the stressor.

Maladaptive or ineffective coping is not restricted to substance use or any other type of coping. However, any coping effort can fail to produce a beneficial outcome or generate a detrimental outcome. Hence consistent with the proactive coping model (see figure 3.2), as discussed below, if an individual believes or perceives a beneficial effect, it may be

argued that the coping efforts were effective, regardless of any observed effect (Hickle, & Anthony, 2013; Lazarus & Folkman, 1984).

3.7 CURRENT COPING MODELS

There are many models of the coping process, and psychologists agree that they involve a series of stages. These begin with identifying a threat, for one cannot cope with something that is not recognised. Next, most models of coping refer to a process of appraisal, that is an assessment of the severity of the threat, and of the resources available to handle it. There are different ways of appraising threats, and experience plays a major role here. A response is implemented and the effects are evaluated by returning to the appraisal process in a circular loop (Anon, 1994).

In this section, the theoretical and proactive models of coping are explained. Only these two specific coping models were included in this research study because they were deemed to be more relevant to it.

3.7.1 Theoretical model of stress and coping

The transactional model of stress and coping (Nicolai, Laney, & Mezulis, 2013; Lazarus & Folkman, 1984) has been extensively researched and at present, its theoretical foundations are widely accepted by researchers and practitioners (e.g. Yu, Chiu, Lin, Wang & Chen, 2007; Cooper, Dewe & O'Driscoll, 2001; Folkman & Lazarus, 1984). Figure 3.1 demonstrates the theoretical connections of transactional stress and the coping theory. This model's central tenet is that a potentially stressful event will trigger the primary appraisal process in which an individual assesses the degree of threat in relation to his or her well-being.

Most people use problem-focused and emotion-focused coping simultaneously and to varying degrees, depending on the stressor, the individual and the situation (Lazarus & Folkman, 1984). Successful coping reveals a psychological adaptation defined as the management of stress resulting in acceptable continued social functioning, morale or somatic health. Inadequate coping would be apparent as maladaptation.

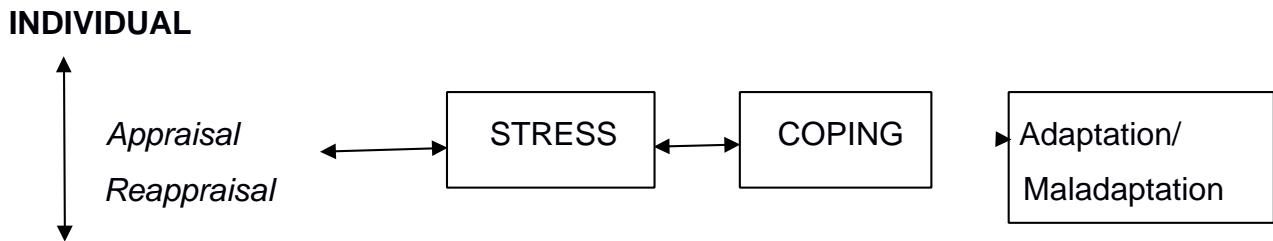


Figure 3.1. Theoretical model of stress and coping

Source: Lazarus and Folkman (1984, pp. 141–169)

3.7.2 The proactive coping model

According to Schwarzer and Taubert (2002) one can cope before a stressful event even takes place, while it is happening or afterwards. Figure 3.2 indicates that upcoming challenges may be seen as potentially self-promoting. Nicolai, Laney, & Mezulis, 2013 as well as Beehr and McGrath (1996) distinguish five situations that create a particular enlightened context: (1) preventive coping, long before a stressful event occurs or might occur (e.g. a drinker might stop drinking well in time to avoid the risk of a liver disease); (2) anticipatory coping, when the event is expected soon (e.g. taking pre-operation medication while waiting for surgery); (3) dynamic coping, while it is ongoing (e.g. diverting attention to reduce chronic pain); (4) reactive coping, after it has happened (e.g. changing one's life after a major accident); and (5) residual coping, long afterwards, by contending with long-term effects (e.g. controlling one's intrusive thoughts years after a traumatic accident has happened).

To introduce an alternative perspective, one can distinguish between reactive, anticipatory, preventive and proactive coping (Nicolai, Laney, & Mezulis, 2013; Beehr & McGrath, 1996). Reactive coping refers to harm or loss experienced in the past. Anticipatory coping pertains to imminent threat in the near future. Preventive coping refers to an uncertain threat potential in the distant future, and proactive coping involves upcoming challenges that are seen as potentially self-promoting.

Individuals with a proactive personality have greater career success than individuals who are not proactive. Research has demonstrated that tangible benefits, such as higher

salaries, more frequent promotions and more job satisfaction, are associated with a proactive disposition (Seibert, Crant, & Kraimer, 1999).

Figure 3.2: The pro-active coping model

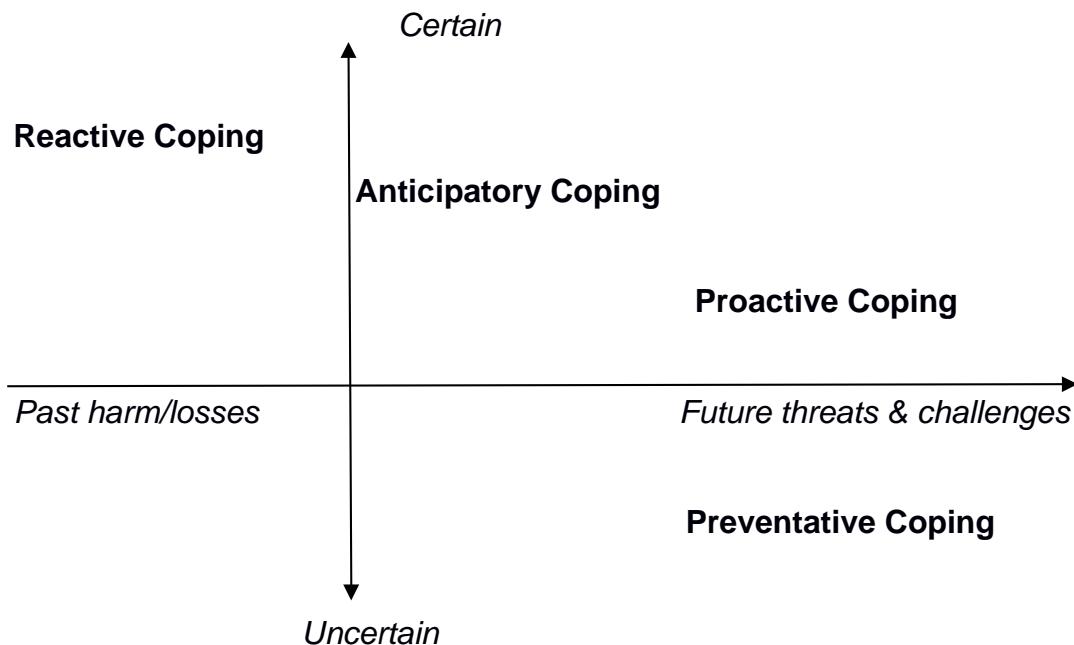


Figure 3.2. The proactive coping model

Source: Schwarzer and Taubert (2002, pp. 19–35)

3.8 COPING IN THE WORKPLACE

Nowadays the corporate workplace is filled with anxiety, stress, deadlines, pressure, success and failure. The top individual and organisational performers need to be able to cope with the rapidly changing environment in order to succeed and achieve high performance results (Hicks & Caroline, 2007). Many people cite work as their main stressors, and there are many reasons for this. Given that most of us spent a large proportion of our time at work, jobs are often closely tied to our personal identities, our finances, and our lifestyles as a whole. This makes our work lives quite influential on our overall well-being. People with jobs that have certain characteristics are at risk for higher levels of stress, as well as an increased risk of burnout, anxiety, and depression (Scott, 2013).

According to Collingwood (2006a), learning how to manage these on-the job stressors is one of the most important skills that we can ever learn. Having this skill in place will ensure that moods become more stable, thoughts become clearer, relationships improve and the risk of illness diminishes. When an employee is not stressed, he or she can be more productive because he or she is more focused (Scott, 2013).

According to Bowen, Edwards, Lingard, and Cattell (2014), workplace stress leads to psychological, physiological and sociological strain effects. Sufferers adopt different coping mechanisms in attempts to mitigate their condition. Most respondents experience high levels of stress at work.

The psychological effects of workplace stress can include the feeling of not being appreciated by others for a job well done, feeling disgruntled with one's own performance at work and feeling nervous at work. Physiological effects include conflicts to usual sleep patterns, difficulty in relaxing after hours and difficulty in concentrating. Sociological effects include a strain on family life, social activities and social relationships (Bowen et al., 2014).

Each year, there are numerous unfavourable organisational outcomes associated with high work stress such as employee turnover (Shirom & Ezrachi, 2003), lower productivity (Tetrick & Quick, 2011), excessive absenteeism and increased workplace violence (Barling, Dupre, & Kelloway, 2009). Work stress is a substantial contributor to increases in employee health problems, including cardiovascular diseases, musculoskeletal disorders and injuries (Johnston, 2002), as well as immunosuppression (Johnston, 2002). In fact, some have estimated that nearly 80% of all illnesses are stress related, making work stress a serious health concern (Pretrus & Kleiner, 2003). Figure 3.1 indicated the transactional model of stress and coping. The discussion of the model indicated how coping can manifest as psychological adaptation defined as the management of stress resulting in acceptable continued social functioning, morale or somatic health.

According to Romeo (2013) as well as Almeida and Horn (2004), young adults report higher levels of stressful life events than middle-aged or older adults. These events include finding and starting a career, getting married, having children and losing jobs. Studies have shown that there is an increase in emotion regulation of emotional maturity

that occurs in early adulthood. This development of emotional maturity means the ability to regulate internal and external expression of emotions and to develop the ability to judge action as well as to judge the motivation of others. Individuals who find themselves in their mid-life have stressors of their own in the sense that they have to deal with work responsibility and continuous personal development.

Baltes & Staudinger (2000) found that stress results in increased acute symptoms in early adulthood but chronic illness becomes a problem in mid-life. Individuals in their mid-life, however, are seen to be at the height of their coping abilities. They use more problem-focused coping strategies than any other developmental stage and they are also highest in the application of their practical knowledge (Romeo, 2013; Baltes & Staudinger, 2000). In addition, Kelly & Louise (2007) found that middle-aged adults report higher levels of proactive coping, suggesting that they, in some cases, have the ability to minimise stressors.

Extroversion is the tendency to be sociable, assertive and active and to experience positive effects, such as energy and zeal. Although personality traits have a large genetic component, they can still be trained and developed. If people can aggressively develop a proactive, conscientious and extroverted style of coping, this will not only help them to perform better under traditionally stressful situations, and it will also correlate highly with career success and satisfaction. Hence career development should focus on goal setting and the formulation of strategies for the achievement of those goals. These techniques allow workers to prevent and, if prevention is impossible, to proactively cope with traditionally stressful situations (Romeo, 2013; Hicks & Caroline, 2007).

If coping is ineffective, the effects of stress may be detrimental for physical and psychological health and functioning in all areas of life. If coping is effective, stress is likely to remain under control and the challenge may lead to a sense of satisfaction and increased self-efficacy. By effectively coping with stress, we can achieve more than we may have thought we could accomplish. Effective coping may also lead to a positive reorganisation of our lives resulting in increased productivity, performance and life satisfaction (Romeo, 2013; Lazarus, 2006).

From a positive point of view, wellness and health can promote employees' ability to cope more effectively with stressors in the workplace as well as enhance work engagement. Individuals who are able to cope with stressors and are engaged in their work, often display a strong sense of coherence. On the negative side, employees who experience "dis-ease" ("un-wellness") due to stress and work overload may experience burnout. Individuals who are burnt out and stressed often display a weak sense of coherence (Romeo, 2013; Schaufeli, Salanova, González-Romá, & Bakker, 2002).

According to Limor Zomer (2012), when taking the potential harmful effects of workplace stress on workers into consideration, it appears to be beneficial for employers to provide their employees with counselling, psycho-educational programming/seminars, and/or coaching resources to help them increase their quality of life, as this increases their well-being, which in turn results in better job performance and productivity.

Strategies of coping become a form of goal management and attainment, instead of risk management. It is suggested that appropriate and carefully targeted stress management strategies be implemented by organisations to enable individuals to proactively strive for career improvement and build up resources that assure progress and quality of performance (Bowen et al., 2014).

3.9 SUMMARY

Individuals cope with stress by moving towards their goals and leave those goals behind that can no longer be attained. However, one needs to distinguish between coping strategies, such as emotional and problem-focused coping styles that consist of habitual ways of dealing with stress (Dewe et al., 2010). It can be said that when individuals are able to regulate internal and external expression of emotion and to develop the ability to judge action as well as to judge the motivation of others, they are emotionally mature and can actively deal with the demands and life stressors, and therefore have better outcomes from their coping strategies (Aldwin, 2007).

Emotionally mature individuals may have the ability to judge situations to be less stressful and have the ability to utilise resources more effectively and thus may have better outcomes from their coping strategies (Aldwin, 2007). Successful coping strategies can

improve not only work performance and productivity, but also health and well-being, not only in working environments but also in daily living. In chapter 4, the independent variables, namely sense of coherence and locus of control are discussed.

CHAPTER 4

SENSE OF COHERENCE AND LOCUS OF CONTROL

4.1 INTRODUCTION

The primary focus of the study was to determine the relationship between three psychological wellness constructs, namely locus of control, sense of coherence and coping. This chapter focuses on two of these wellness constructs simultaneously, namely sense of coherence and locus of control (the two independent variables). The aim of this study is to examine the relationship, in order to establish what potentially makes an employee perform well in the face of challenges faced on a daily basis.

In this chapter different literature relating to each one of these wellness constructs is examined, including the definition, meaning, historical background, and the conceptualisation and characteristics. The chapter concludes with a brief summary.

4.2 DEFINITION OF SENSE OF COHERENCE

Sense of coherence (SoC) is a dispositional coordination that refers to past and present life. It is sometimes regarded as an enduring person-and-view of life-related characteristic influencing appraisals of meaning ascribed to different situations (Harry and Coetze, 2011; Pulkkinen, Kaprio, & Rose, 2006).

SoC is often defined as follows: "The extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one's environment is predictable and those things will work out as well as can reasonably be expected" (Pulkkinen et al., 2006). In other words, it is a mixture of optimism and control. Pulkkinen et al. (2006) describe SoC

as a positive personality characteristic, which includes life satisfaction, optimism, view-of-life-related characteristics and appraisal of meaning.

SoC refers to a world perspective that gives meaning to the individual's experience and that leads to successful coping and resilience under stress (Harry and Coetze, 2011; Chrisler & McCreary, 2010).

According to Walker (2002), SoC is an important determinant in an individual's psychological wellness. The value of SoC is that the focus is on promoting health and wellness, as well as on showing kindness and understanding towards oneself in difficult times (Feldman, 2011; Chrisler & McCreary, 2010).

For the purposes of this study, SoC is defined as the tendency towards an individual seeing life as being "under control" (Amirkhan & Greaves, 2003).

4.3 MEANING OF SENSE OF COHERENCE

As a global life orientation, SoC expresses the extent to which one has a pervasive, enduring and dynamic feeling of coherence – that is, one's world is ordered, structured and consistent (comprehensible); situations in life are endurable, manageable or a new challenge; one's life is meaningful and makes sense on an emotional and cognitive level; and life's demands are worthy of commitment (Rothmann, Jackson, & Kruger, 2003; Sairenchi, Haruyama, Ishikawa, Wada, Kimura, & Muto 2011). SoC further explains how people feel, how they perceive, behave and cope with demanding and challenging (stressful) situations, and how they remain healthy (Louw, Mayer, & Baxter 2012).

Harry and Coetze (2011) expand on the above, stating that SoC can be viewed as a personal resource that acts as a form of resilience to stress and a buffer against burnout experienced in the work environment.

According to Walker (2002), SoC is an important determinant in an individual's psychological wellness. The value of SoC is that the focus is on promoting health and wellness, and on showing kindness and understanding towards oneself in difficult times (Chrisler & McCreary, 2010).

SoC is not a coping style but a disposition or way of appraising the world, which allows individuals to choose appropriate strategies to deal with the pressures they are facing (Strümpfer & Mlonzi, 2001). SoC has been shown to be associated with positive psychological characteristics such as self-esteem, internal locus of control (which will be dealt with later in this chapter), and life satisfaction, and with increased personal adjustment to a variety of life stresses (Lustig & Strauser, 2008). SoC may further be regarded as a key element in the structure of a person's personality, which facilitates the coping process (Griffiths, 2009). An individual with a strong SoC in the workplace is likely to cope more effectively with various stressors than an individual with a weaker SoC, which may point to the relevance of investigating SoC among employees because of the various stressors they face daily. In the work environment it is possible that employees with a weak SoC will develop symptoms such as burnout, while those who have developed a strong SoC will show work engagement (Antonovsky, 1987; Rothmann, 2003).

4.4 HISTORICAL BACKGROUND TO SENSE OF COHERENCE

The concept SoC was put forward by Aaron Antonovsky in 1979 to explain why some people become ill under stress and why others stay healthy. It arose from the salutogenic approach, that is, the search for the origins of health rather than the causes of disease. The SoC gained widespread attention and has since been linked to health outcomes in many studies (Forbech, & Hanson, 2013; Antonovsky, 1979).

Why do some people stay healthy regardless of severe hardship, and others not? In the late 1970s, Antonovsky (1979) proposed a salutogenic approach to the origins of health (versus the origins of diseases), based on the assumption that the human environment causes strain. According to Forbech, & Hanson (2013) and Walker (2002), SoC is a key determinant in an individual's psychological wellness. Employee wellness is a sensible and continuous process that leads towards the improvement of individual, organisational and collective health and well-being (Van der Merwe, 2004). "Salutogenesis is a view of health that examines how to preserve health (salutogenesis) rather than looking at how illness is caused (pathogenesis)" (Rabin et al., 2005, p. 94).

The term "salutogenic" comes from the Latin word *salus*, which means health and *genesis*, which means origins (Nel, Crafford, & Roodt, 2004). The salutogenic approach

accepts the inevitability of stressors in everyday life and in the workplace, and the fact that individuals are able to cope with the ensuing stress in some way or another (Forbech, & Hanson, 2013; Oosthuizen & Van Lill, 2008).

Although defined as a medical sociologist, Antonovsky's work is also relevant to psychology, psychiatry and mental health. He stressed the importance of the central nervous system in his SoC concept by stating the following: "it is the brain that coordinates the entire system" (Antonovsky, 1996, p. 172). His work was part of the postWorld War II movement away from studying unhealthy people towards studying those who are healthy, and also away from studying what makes people unhealthy towards the study of what can help people live healthier, more productive and fulfilling lives. He found that the adaptation of concentration camp survivors created initial underlying strength, and a subsequent environment that provided opportunities to re-establish a satisfying and meaningful existence, and finally, a hardness that allowed survivors to view current stressors with some degree of equanimity were all explanations for health (Forbech, & Hanson, 2013; Dorland, 2009). Antonovsky's focus on healthy individuals and how they cope, adapt and thrive successfully can be seen as part of the movement in psychology towards studying human potential for health, productivity and fulfilment that is labelled as humanistic psychology.

Antonovsky (1979) seemed to be of the opinion that individuals who remain fairly healthy in the face of adversity have a certain way of looking at the world (Rabin et al., 2005). His idea was to focus on people's resources and capacity to create health instead of the classic focus on risks, ill health and disease (Lindstrom & Eriksson, 2005). Antonovsky (1979) argued that the normal state of the human organism is one of disorder and conflict rather than stability and homeostasis. He focused on making order out of chaos, and emphasised the importance of coping resources in dealing with stress. He sought a construct that would characterise the shared components of a wide variety of generalised resistance resources, such as childhood living circumstances, social support, cultural stability, education and income, and one that might explain how these factors facilitate coping with stressors and promoting health. He thus found that what these various generalised resistance resources have in common is life orientation, which he called SoC (Forbech, & Hanson, 2013; Antonovsky, 1979; Sagiv & Antonovsky 2000).

4.5 CONCEPTUALISATION OF SoC

As a person progresses through life, the exposure to certain challenges and stressors either results in him or her being able to handle the situation or being overcome by the challenge (Antonovsky, 1979).

SoC has been identified as one of the salutogenic variables that may act as a coping mechanism in stressful situations (Oosthuizen & Van Lill, 2008). According to Basinska, Andruszkiewicz, and Grabowska (2011), SoC is conceptualised as a dispositional life orientation to help one to constructively assess and respond to environmental challenges.

Antonovsky (1979) describes a number of personality theories and how they informed his SoC theory. He enabled the multidimensional concept that emerged from his work as SoC. In defining SoC he explained that it is a generalised, long-lasting way of seeing the world and one's life in it. It is perceptual, with both cognitive and affective components. It is a crucial element in the basic personality structure of an individual (Antonovsky, 1979).

Adding to this definition, Antonovsky (1987) stated that SoC is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that 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 offset the demands posed by these stimuli. The demands are challenges worthy of investment and engagement.

SoC is essentially a tendency towards an individual seeing life as being "under control" (Amirkhan & Greaves, 2003). Each person's SoC requires certain inherent fundamentals for coping successfully, which are represented by the concepts of comprehensibility, manageability and meaningfulness (Antonovsky, 1987). The SoC questionnaire consists of these elements (concepts), (namely comprehensibility, manageability and meaningfulness) (Lindstrom & Eriksson, 2005):

- Meaningfulness (the motivational component of SoC) refers to the extent to which a person feels that life makes sense emotionally. Individuals feel that it is worth investing energy in problems, and that demands are worthy of commitment and engagement. Furthermore, these demands are regarded as challenges instead of burdens.
- Comprehensibility (the cognitive component of SoC) refers to the extent to which individuals perceive stimuli that confront them as making cognitive sense as information that is ordered, consistent, structured and clear.
- Manageability (the behavioural component of SoC) is the extent to which an individual perceives that adequate resources are at his or her disposal to help him or her to meet the demands posed by the stimuli.

This (SoC) scale measures a person's world view over time, and is designed to measure strengths within individuals that allow them to survive in the face of extreme stresses. According to Antonovsky (in Gropp, Geldenhuys, & Visser, 2007), the scale was developed mainly to measure SoC as a global orientation, although the scale yields scores on each of the three dimensions explained above. Each item includes four facets that describe the stimulus, including a fifth SoC facet that expresses one of the three components of SoC.

According to Rothmann (2003) it is possible that employees with a weak SoC will develop burnout, while those who have developed a strong SoC will display better work engagement. Studies (e.g. Antonovsky, 1993; Rothmann, 2003) have confirmed that a person's SoC is a significant component of his or her health and well-being. Each person's SoC requires certain characteristic fundamentals in order to cope successfully; these are represented by the three concepts (comprehensibility, manageability and meaningfulness) (Antonovsky, 1987).

Over the last 30 years, the work of Antonovsky has become influential and many researchers working in the fields such as humanistic psychology, nursing, psychopathology, health psychology and positive psychology have researched, referred to and employed his salutogenic theory and SoC concept. The SoC concept and

salutogenic theories have caused fundamental changes in how we think about stress, coping and health, and they have been applied across many different disciplines.

The most common way of measuring SoC is to use the scale developed by Antonovsky. The SoC scale is a widely used instrument in medical and other research areas. The SoC scale was used in this study.

4.6 **SoC AND PERSONALITY TRAITS**

SoC has also been studied in the context of personality traits. Only a few decades ago, the prevalent opinion among personality experts was that personality traits did not exist, and that situational factors swamped personality variables in accounting for what people actually did (Sutin, Costa, Wethington, & Eaton, 2010; McAdams & Pals 2006). However, the current discussion recognises personality traits as a privileged status.

There is widespread acceptance of the five-factor model of personality, often called the big five, according to which individual differences in social and emotional life fall into the following five broad categories derived from factor analysis (Sutin et al., 2010; McAdams & Pals, 2006).

- (1) *Extroversion* (vs introversion). This involves characteristics such as excitability, sociability, talkativeness, assertiveness and high amounts of emotional expressiveness.
- (2) *Neuroticism* (negative affective). Individuals high in this trait tend to experience emotional instability, anxiety, moodiness, irritability and sadness.
- (3) *Conscientiousness*. Common features of this dimension include high levels of thoughtfulness, with good impulse control and goal-directed behaviours.
- (4) *Agreeableness*. This personality dimension includes attributes such as trust, altruism, kindness, affection and other prosocial behaviours.

- (5) *Openness to experience*. This trait features characteristics such as imagination and insight.

Feldt, Metsäpelto, Kinnunen, and Pulkkinen, (2007) analysed the conceptual relationship between SoC and the five-factor model of personality. They reported a strong negative association between a high SoC and neuroticism (-0.85), and a modest positive association between SoC and extroversion, openness, conscientiousness and agreeableness. They concluded that SoC and reversed neuroticism, that is, emotional stability, are closely related constructs. In addition to psychological elements, SoC has a strong sociological element, given the fact that coping is not exclusive to the person concerned, but also involves interaction between people and the society around them – in other words, the human resources and circumstances of the living context. Antonovsky contended that salutogenesis was an interdisciplinary approach bringing coherence between different disciplines and realisation of what connects them (Eriksson, 2007).

A significant amount of research suggests that personality is stable throughout life and associated with a range of significant life outcomes, from academic and occupational success, to marital stability and physical health and wellness (Rentfrow, 2009).

4.7 CHARACTERISTICS OF INDIVIDUALS WITH A STRONG SoC

According to Antonovsky (1987), a person with a strong SoC can select a particular coping strategy that seems most appropriate to deal with the stressors being confronted. Subsequently, the availability of a wide range of coping strategies, and flexibility in choice at any given time, are crucial (Van der Colff & Rothmann, 2009). The stronger a person's SoC, the better his or her ability will be to employ cognitive, affective and instrumental strategies that are likely to improve coping and, subsequently, wellbeing.

Individuals with a strong SoC are characterised by health and job satisfaction (Antonovsky, 1987), which will be explained below:

4.7.1 Health

According to Antonovsky (1987), individuals with a high SoC are assumed to occupy a more favourable position on the health ease–disease band than those who score low in terms of their SoC (Hakanen, Bakker, & Demerouti, 2005). According to Antonovsky's (1987) theory, which was based on his observations, the holocaust survivors with a high SoC remained healthier than the other victims of the holocaust with lower levels of SoC (Hakanen et al., 2005; Kivimäki, Feldt, Vahtera & Nurmni, 2000). In theory, SoC is hypothesised as a salutogenetic resource which influences the chances of recovering from disease through effective coping. This coping includes both the avoidance of habits that may interfere directly with health (smoking, excessive drinking, unhealthy diet and sedentary lifestyle) and adaptive behaviours that may lessen the severity of illness (transactions with health professionals and seeking early treatment) (Antonovsky, 1987).

SoC is regarded as the major construct that contributes towards research in the area of resiliency and health. Richardson and Ratner (2009) concluded that recent research in a variety of clinical and work-related settings supports Antonovsky's theory that SoC moderates the health impacts of stressful life events.

4.7.2 Job satisfaction

According to Bezuidenhout (2008), individuals with a strong SoC are guided by fundamental principles in terms of which they seek a balance between rules and strategies and between stored and potential information. Such individuals perceive the world as a challenge and not as a threat. Rothmann (2001) states that individuals with a high SoC score, experience high job satisfaction. They make cognitive sense of the workplace and perceive it as ordered, structured, consistent and bearable (Bezuidenhout, 2008). This, in turn, results in productive performance, recognition, reward and promotion.

4.8 AN INDIVIDUAL'S DEVELOPMENT OF SoC

Antonovsky (1987) maintains that SoC is developed mainly in childhood and early adulthood, although new research has indicated that the development of SoC is, in fact, an ongoing process throughout life (Lindstrom & Eriksson, 2009). While an individual's

SoC is still developing, he or she is repeatedly exposed to tension states, requiring him or her to actively respond to stressors by mobilising appropriate resources (Richardson & Ratner, 2009).

SoC is thought to be a product of idiosyncratic events in an individual's life, but may also be a product of having grown up in a particular social structure, culture and historical period (Antonovsky, in Strümpfer & De Bruin, 2009). Antonovsky (1987) hypothesised that the strength of a person's SoC more or less stabilises by the age of 30, because the person has had enough life experiences by that time to form his or her SoC. However, this assumption is criticised in several studies, which suggest that SoC tends to increase with age through the person's entire lifespan (Forsberg, Bjorkman, Sandman, & Sandlund, 2010). According to Lindstrom and Eriksson (2005), people develop their SoC through their whole life span, but mainly during about the first 30 years of their lives, when they learn how to cope with life in general. This finding is based on cognitive, behavioural and motivational factors which may be improved by raising the awareness of the population, empowering the population and promoting engagement in areas that are meaningful to the population. Eriksson (2007) found that the development of SoC is a lifelong process, which is likely to vary during the adolescent period because of developmental shifts and challenges during this period. Social support and a home environment with child-centred parenting in childhood and adolescence are central in the development of SoC (Marsh, Clinkenbeard, Thomas, & Evans, 2007).

Other factors that may strengthen SoC include both social support and work-related factors. In a research study conducted by Volonen, Suomien, Lahelma, Koskenvuo, Kosvenuo, and Silventoimen (2010) into the intention to retire early among Finnish men and women, it was found that both a strong occupational sense of life control, and a firm belief that it is possible for an individual to influence his or her own life and that each individual is responsible for himself or herself, resulted in a more favourable self-image. Bezuidenhout (2008) examined other factors that may strengthen SoC, including the following:

The first factor is *general life experiences*, which may be moulded by consistency in, say, striking a balance between underload and overload and by participation in a socially valued decision-making process. This demonstrates consistency in respect of the SoC.

Bezuidenhout (2008) requires that, if a given behaviour has the same result, the individual concerned will continue to experience consistency in his or her life.

Secondly, *underload–overload balance* requires an individual to achieve equilibrium between these two loads. Balance may be referred to as a consistent history of being called upon (by one's inner self or by the world around one) to act in various ways that make use of one's potential and are appropriate to the resources at one's disposal (Bezuidenhout, 2008).

The third factor is *participation in decision making*. It is necessary for individuals to approve of the tasks set before them and to be able to exercise a high degree of performance responsibility. Such behaviour will have an impact on the outcome of the experience and will strengthen their SoC (Bezuidenhout, 2008). Eriksson (2007) posits that the main factor is not what resources are available, but the ability to identify, as well as use and re-use them for the envisaged purpose. Antonovsky's (1987) Generalised Resistance Resources (GRRs) can be defined as any characteristic of the person, group or environment that can facilitate effective tension management, and they are a vital concept in Antonovsky's (1987) research. GRRs were also further researched by Eriksson (2007). A person with a strong SoC will have the ability to use these GRRs to help him or her to cope effectively (Eriksson & Lindström, 2005; Nielson & Hansson, 2007).

Certain other factors that have an influence on the balance of SoC involve unique life events within a cultural and historical context, that include social and economic factors such as studying, earning money, providing for a family and the development of relationships with colleagues (Loyttyniemi, Viratnen, & Rantalaiho 2004). It is thus selfexplanatory that the first years of employment also play a key role in the development of one's SoC. When individuals are at work, they are likely to have a feeling of security, which helps provide the basis for comprehensibility, a good work load balance of manageability. If these individuals feel that they have an influence on their work and life, this will contribute to meaningfulness (Antonovsky, 1987).

The role that biographical differences such as age, gender and culture, education and one's level of work experience potentially play in an individual's SoC are discussed in more detail below.

4.8.1 The role of age differences in SoC

As indicated earlier, some studies agree that SoC will stabilise at the age of 30 (Feldt et al., 2011; Hochwälder & Forsell, 2011), while others have noted that SoC is not as stable over the adult life span (Wainwright, Surtees, Welch, Luben, Khaw, & Bingham, 2008). According to Wiesmann and Hannich (2012), far-reaching and traumatic events may threaten to change one's SoC later in life. Feldt, Leskinen, Koskenvuo, Suominen, Vahtera, & Kivimäki, (2011) reported significantly higher SoC in older adults than in younger adults, although the mean level of SoC increased more over time for younger adults than for older adults.

The theoretical assumption of SoC stability in adulthood has thus been the focus of various studies with varying results. Authors argue that stability in SoC is a general phenomenon rather than a chronological age phenomenon.

4.8.2 Gender and cultural differences in SoC

Numerous theoretical studies seem to indicate a significant difference in the level of SoC among different cultures. Mayer (2011) reported higher SoC scores for black and Indian managers than for white Afrikaans- and English-speaking South African and German managers. Barnard, Peters, and Muller (2010) noted a significantly higher SoC score among black and mixed-race employees of an insurance company than their white and Indian counterparts.

In a study by Van der Westhuizen, De Beer, and Bekwa (2013) on a sample of postgraduate South African students, differences in the SoC levels between race groups were established, but no significance in the differences between their gender groups could be recognised.

Early studies established higher SoC levels in men than in women (Antonovsky & Sagy, 1985). More recent research has indicated limited differences between male and female respondents (Volonen, et al., 2004). However, Lindström and Eriksson (2005) maintain that women seem to score lower on SoC than men, but not significantly, and attribute these small gender-based SoC differences to social factors.

4.8.3 Education and job level in SoC

Regardless of gender, individuals with extensive education reported significantly fewer conflicts in relation to their work tasks. They were more satisfied with their salaries, career opportunities and had the potential to be creative (Pisani, 2009).

Van Schalkwyk and Rothmann (2008) reported significant differences in SoC levels for qualification and job level, but none for age, gender and language. They found SoC to increase with job level and qualification level. This is similar to the study by Liukkonen, Virtanen, Vahtera, Suominen, Sillanmäki, and Koskenvuo, (2010), in which levels of SoC were related to positive upward career movement. Barnard et al. (2010) confirmed a positive relationship between SoC and financial health variables, in particular, level of income.

In both women and men, level of education was positively linked to job satisfaction and health, whereas a lower level of education was associated with decreasing levels of job satisfaction, SoC, self-acceptance, purpose in life, personal growth and more physical and psychological symptoms (Pisani, 2009).

4.9 SoC IN THE WORKPLACE

Workplaces and individual careers have become more chaotic and uncertain in the increasingly turbulent, highly competitive and dynamically changing business environment. Consequently, individuals are required to use their positive psychosocial capital in order to stay employable and to adapt to uncertainty and more frequent career changes (Avey, Reichard, Luthans, & Mhatre, 2011; Savickas, 2011; Savickas & Porfeli, 2012).

High turnover rates, constant monitoring, absenteeism, surveillance and the emotional labour required for the specific occupation are some of the key challenges that employees and managers face on a daily basis (Banks & Roodt, 2011; Borgogni, Consiglio, Allesandri, & Schaufeli, 2012; Consiglio, Borgogni, Allesandri, & Schaufeli, 2013; Poddar & Madupalli, 2012). These challenges may be compounded by the shifting nature of careers and working in the 21st century.

In an organisational environment, a person with a strong SoC tends to be able to make cognitive sense of the workplace, and will perceive its stimuli as ordered, clear, consistent, structured and predictable information. In addition, this person will perceive work as challenging, and should be able to make motivational sense of work demands as challenges that are worthy of engaging with and investing energy in (Strümpfer & De Bruin, 2009). Strümpfer and De Bruin (2009) further found strong support for the hypothesis that SoC is positively related to job satisfaction.

Individuals who manifest a high SoC will assume responsibility for both themselves and for their performance at work. They will not be afraid to make decisions for themselves in the work situation (Antonovsky, 1987). The workplace may be viewed as a significant aspect of an individual's life that affects his or her well-being (Harter et al., 2002). Job resources and personal resources are mutually related, while personal resources may function as independent predictors of work engagement. "Thus, employees who score high on optimism, self-efficacy, SoC and self-esteem are well able to mobilise their job resources, and, generally, are more engaged in their work" (Bakker & Demerouti, 2008, p. 218). Job resources refer to those aspects of the job that may be useful in achieving work-related goals, stimulate personal growth and development and reduce job demands at the associated physiological and psychological costs (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

According to Rothmann (2009), it is essential for organisations to deal with a low SoC among their employees. This can be done in the following ways (the three concepts of SoC were discussed in section 4.4 above).

- (1) *Comprehensibility.* Provide information in an understandable, consistent, structured and orderly format.

- (2) *Manageability*. Equip employees with the necessary knowledge, skills, materials and any other necessary resources. Also ensure that there is a balance in the load of responsibilities and tasks to be handled.
- (3) *Meaningfulness*. Promote participation in decision making and allow employees a degree of independence and freedom of choice and the freedom to disagree with their supervisors (Rothmann, 2009).

All in all, SoC as a life orientation refers to consistency, congruence and harmony (Mayer & Boness, 2009).

4.10 SoC AND WELLNESS

Research into employee well-being has often required the necessity to characterise key elements in a job or organisation that may influence employee reactions (Warr, 1996). According to a survey conducted by employee assistance professionals in South Africa, it was found that the most prevalent problems in the workplace are family issues (25%), stress (23%), depression (21%), alcoholism (14%), job conflict (9%) and drug abuse (2%). There are abundant stressors that employees have to struggle with in the organisational environment, for example, globalisation, work conditions, management behaviour and trust (Nel & Spies, 2006). These are a few main areas in practice that make it useful and important to study employee wellness.

Much of the research investigating the SoC construct and its relationship with well-being has consistently noted that a strong SoC is associated with greater well-being (Myrin & Lagerström, 2008). In one such study using an adolescent sample, low SoC scores were associated with higher levels of life dissatisfaction, feelings of depression, poor psychosomatic health and anxiety about family members (Myrin & Lagerström, 2008).

SoC is fundamental to salutogenesis in the sense that it determines how people perceive their lives and use the resources available to them. According to Antonovsky (1987), the stronger an individual's SoC, the more likely he or she is to engage in activities that are wellness-promoting (Conway, 2011). Evidence suggests that a strong SoC

encourages a better perception of health and enables an individual to take advantage of available resources and to engage in positive wellbeing (George, 1999).

Work-related wellness studies demonstrate that SoC affects the way employees cope with work-life demands to remain high-performing, goal-achieving individuals (Austin & Cilliers, 2011; Urakawa, Yokoyama, & Itoh, 2012). According to Rothmann and Ekkerd (2007). Wellness is widely associated with and accepted as the conceptual anchor of Antonovsky's (1987) salutogenic approach, in which SoC is regarded as a source of resilience and a wellness-protecting orientation to life (Feldt et al., 2011).

In a review by Zautra and Hempel (1984), sufficient data was found on the relationship between health and well-being. Because SoC is indeed related to health, it could reasonably be expected that health should be related to a variety of aspects of wellbeing. If successful coping with life stressors has positive consequences for health, it could also have positive consequences for satisfaction, happiness, morale and positive affect (Antonovsky, 1987).

Despite the potential benefits of SoC, there have been few studies examining the effects of SoC in patients with chronic pain. In an observational study of Norwegian patients with various pain conditions, it was in fact found that strong SoC was associated with lower pain intensity and higher levels of life satisfaction (Feldman 2011; Anke, Damsgard, & Roe, 2013).

According to Antonovsky (1987), a person with a SoC selects the particular coping strategy that seems most appropriate to deal with the stressor being opposed. SoC reconciles the relationship between job stress and work wellness. Studies (e.g. Antonovsky, 1987; 1993; Rothmann, 2003) have confirmed that a person's SoC is an important component of his or her health and well-being. A strong SoC is also related to general well-being (Feldt, 1997) and emotional stability (Mlonzi & Strümpfer, 1998).

4.11 DEFINITION OF LOCUS OF CONTROL (LoC)

The construct LoC was initially developed by Julian B. Rotter in 1954 (Aremu, Pakes, & Johnston, 2009). Rotter (1966) described LoC as an individual's beliefs which influence

behaviour, and it can be placed on two opposite ends of a scale, namely internal and external LoC.

LoC is a construct that indicates one's ability to cope with difficult situations without pain to oneself or to others. It is a common criterion used for distinguishing psychological wellness (Bradburn, 1969). Bernardi (2001) posits that in the work setting and social environment, people may attribute the cause of events either to themselves (internality) or to the external environment (externality) and to powerful people in positions of authority. Leftron (in Aremu et al., 2009, p. 148) further states that LoC is "how people view the world and how they identify causes of failures in their lives".

For the purposes of this study, the researcher concurred with Rotter's (1966) definition of LoC which is the extent to which individuals believe they can control events affecting them.

4.12 MEANING OF LoC

The concept of LoC derived from Rotter's social learning theory (Roddenberry & Renk, 2010) and measures an individual's expectancy of either the need for internal or external control of reinforcement (Chen & Silverthorne, 2008).

Originally, LoC was described as a psychological concept, generally attributed to Rotter (1966) that measures the attitude regarding the nature of the causal relationship between one's own behaviour and its consequences. In this concept, which is related to self-efficacy, people who believe they can control reinforcements in their lives are referred to as "internals" (Piatek & Pinger, 2010).

People who believe that fate, luck or other people control reinforcements, are termed "externals". Generally, externals do not have much confidence in their ability to influence their environment, and do not see themselves as being responsible for their lives. These individuals are thus generally less likely to trust their own abilities or to push themselves through difficult situations (Piatek & Pinger, 2010).

Individuals who believe they have strong control over what they accomplish, because of their personal behaviour and competencies, are referred to as having an internal LoC (Feldman, 2011; De Mooij, 2010), whereas individuals whose behaviour is reinforced by expectancies (that their accomplishments are ruled by luck, fate, other people and circumstances) have an external LoC (Bergh & Theron, 2007).

Research indicates that externals are therefore prone to less favourable outcomes. Rotter (1966) argued that LoC stems from one's generalised expectancy about the world. A person whose efforts are consistently rewarded, develops an internal LoC, whereas people who do not succeed despite their efforts, acquire an external LoC (Twenge, Zhang, & Im, 2004). Internals therefore see a causal relationship between their behaviour and rewards, whereas externals tend not to make this connection (Rotter, 1990).

LoC is further based on the attribution theory of Heider (Gropp et al., 2007). Attribution theory provides a basis on which individuals judge the stable versus fluctuating qualities of other people (such as motives, intentions or characteristics). Attribution theory is concerned with causal inferences and based on this conceptualisation of LoC; the question posed is "To what can X-outcome (e.g. success or wellbeing) be attributed?" (Taylor, Schepers & Crouse, 2006, p.63). Individuals will therefore try to determine the origin of their own as well as others' behaviour (Gropp et al., 2007).

Aremu et al. (2009, p. 144) further state that LoC is "how people view the world and how they identify causes of failures in their lives". One of the elements of this reaction is the extent to which the person observes the reward. In other words, the reward has to follow from his or her own behaviour or attributes, compared with the degree to which he or she feels that the reward is controlled by forces outside himself or herself and may occur independently of his or her own actions. LoC is therefore a bipolar construct, ranging from internal to external (Ozmete, 2007).

In summary, the concept of LoC is used to explain a person's expectancies – those outcomes of his or her behaviour (reinforcement) that can be or are controlled (Bergh & Theron, 2007; De Mooij, 2010). LoC thus refers to the extent to which an individual believes that he or she can control events that affect him or her.

4.13 BACKGROUND TO LoC

LoC has gained extensive research attention in several subdisciplines of psychology, including clinical, developmental and social psychology (Wang, Bowling, & Eschleman, 2010). LoC has been widely studied and positively associated with outcomes such as job performance and acceptance of change (Carpenter, 2011).

In psychology, LoC is considered to be a key aspect of one's personality. As said earlier, the concept was originally developed by Julian Rotter in the 1950s, and a person's "locus" is conceptualised as either internal (interpreting one's own behaviour and personality) or external (interpreting the consequences of one's behaviour to be controlled by luck or fate) (Rotter, 1966).

Sometimes LoC is seen as a stable, underlying personality construct, but this may be misleading, since the theory and research indicate that LoC is largely learnt. An internal LoC appears to be a significant component of one's emotional well-being and the ability to handle stress in general. There is evidence that, at least to some extent, LoC is a response to circumstances. Some psychological and educational interventions have been found to produce shifts towards internal LoC (Viljoen, 2013; Hans, 2000; Hattie, Marsh, Neill, & Richards, 1997).

The LoC inventory measures three factors, namely internal control (the individual believes that outcomes are a consequence of his or her own behaviour), external control (the individual believes that outcomes are independent of his or her own behaviour) and autonomy (the individual has an internal LoC and prefers to work alone) (Schepers, 2005).

4.14 INTERNAL VERSUS EXTERNAL LoC

In this section, internal and external LoC are explained in more detail. LoC is a generalised expectancy about the underlying causes of events in a person's life. More specifically, it involves the question of whether the causes of events are internal (influenced by a person's action) or external (influenced by outside forces) (Robinson & Rose, 2009).

As said earlier, people who interpret the consequences of their behaviour to be controlled by luck, fate or powerful others are known to have an external LoC. However, those who interpret their own behaviour and personality characteristics as being responsible for behavioural outcomes are considered to have an internal LoC.

Internals are more successful in several work performance variables, because they are more self-sufficient in planning and executing tasks, are easier to motivate and take responsibility for their decisions and outcomes (Chang & Ho, 2009). Ng, Sorensen, and Eby (2006) support Bergh and Theron's (2006) statement, that internals often have higher levels of job motivation, job performance, job satisfaction and leadership than externals, because they are more likely to try to improve their lives, compared to externals (Horn, 2014; Carrim, 2006). Internals are also expected to be more successful than externals in tasks that require more skills. This might be due to the fact that internals use the information they obtain from the environment more effectively and more to their advantage than externals (Bass & Bass, 2008). Internals will look for information and adapt their behaviour patterns, which will assist them in personal control over their environments. Rotter (1966), discusses internals as having the following characteristics:

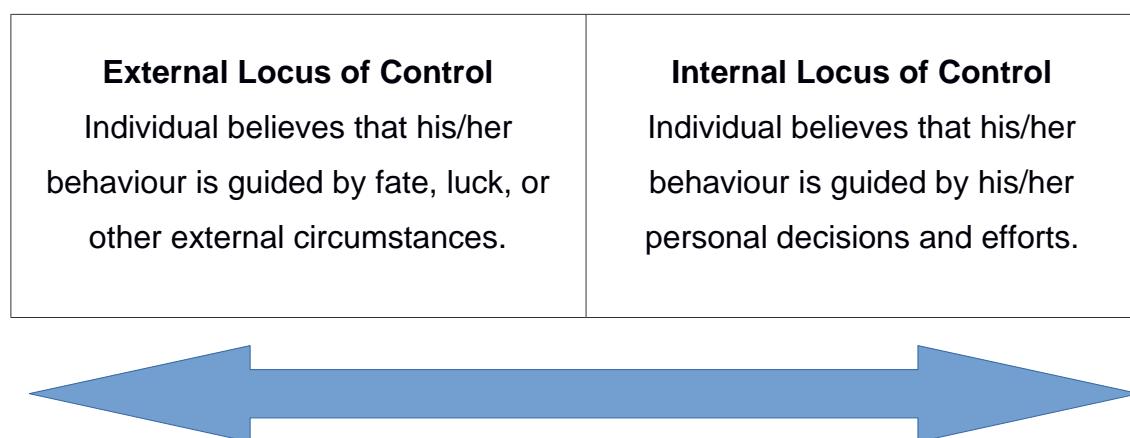
- Internals tend to attribute outcomes of events to their own control (Rotter, 1966). In other words, they generally encompass two characteristics, namely high achievement motivation and low outer-directedness. They are therefore more likely to work for achievement, to tolerate delays in rewards and to plan for longterm goals, whereas externals are more likely to lower their goals (Rotter, 1966).
- After being unsuccessful at a task, an individual with an internal LoC will reevaluate his or her future performance and lower his or her expectation for success, whereas an external will raise his or her expectations (Rotter, 1966).
- Internals are furthermore better able to resist coercion, whereas externals are more outwardly directed (Rotter, 1966).
- Internals are better at tolerating ambiguous situations (Rotter, 1966). There is also evidence in clinical research which indicates that internals correlate negatively with

anxiety, and that they may be less prone to experience depression and learnt helplessness. Learnt helplessness is a “condition of a human being or an animal in which it has learned to behave helplessly, even when a situation is restored for it to help itself” (Rotter, 1966).

Internals tend to have better relationships with others. Those with internal LoC are more helpful, altruistic, cooperative and courteous. They are also more willing to do what is considered right, despite discomfort (Bredell, 2004). Internals tend to view family more positively, and show higher marital satisfaction and willingness to invest in the relationship (Bredell, 2004). Children, who feel that they have control over their lives, find it less necessary to try to control others and respect relational boundaries (Cloud & Townsend, 2007).

Internal LoC is linked to a number of positive health outcomes, as well as motivational models (Viljoen, 2013; Gill & William, 2008). Internals also seem to display high selfconfidence and rely on themselves. LoC is thus conceptualised as referring to a onedimensional continuum, ranging from external to internal, as depicted in table 4.1 below.

Table 4.1 Locus of control as a one dimensional continuum



Source: Zimbardo (1985, p. 275)

Internal locus of control has been found to be related to organisational performance (Adeyemi-Bello, 2001). Research on service providers indicates LoC does influence

organisational behaviours, performance and socialisation activities (Buttgen, Schumann, & Atus, 2012).

Findings suggest a positive relationship between internal LoC and a preference for responsibility, autonomy, role ambiguity and the ability to process complex tasks with job satisfaction (Horn, 2014; Garson & Stanwyck, 1997).

Table 4.2 illustrates the difference in characteristics between internal and external locus of control.

Table 4.2 Differences in characteristics of internal and external locus of control

Internal LoC	External LoC
Emotional stability	Emotionally sensitive
Mature, calm	Immature, uncertain
Assertive	Inferior
Independent	Dependent on approval
Unconventional	Conventional
Adventurous	Overcautious
Socially outspoken	Shy, reserved
Firm	Accommodating, easily influenced
Responsible	Irresponsible
Intelligent, good insight	Insufficient knowledge of self
Self-assured	Uncertain
Analytical	Less precise
Free-thinking	Tunnel vision, limited insight
Relaxed	Stressed

Source: Adapted from Els (1999, p. 98)

Fourie (2009) explains that internal or external LoC becomes an aspect of personality. People can be classified along a continuum from very internal to very external. Further, since LoC is a generalised expectancy, it will predict people's behaviour across situations. However, in specific situations people may display varied LoC. This is based on an individual's learning history regarding reinforcement in that specific situation (Mearns, 2010).

Individuals with an external LoC (non-coping) are likely to demonstrate a passive and reactive response to being unwell. They are unlikely to take responsibility for initiating strategies to promote or enhance recovery and have lost control owing to enforced alterations and adjustments that may have to be made to their life (Harrison & Hart, 2006). Kalbers and Fogarty (2005) found that these individuals will be more vulnerable to stress and are more likely to perceive the event as stressful. According to Scott, Carper, Middleton, White, and Renk (2010), external LoC is associated with less favourable outcomes, for example, poor physical or psychological health.

4.15 LoC AND THE WORK ENVIRONMENT

People who perform better in most employment conditions, usually possess a strong internal rather than external LoC (Singh, 2006). These people tend to be more successful in their careers and earn a higher income than their external equivalents. Furthermore, they experience greater job satisfaction, and are more committed to and involved in their work, which results in greater performance standards. In addition, internal LoC is related to emotional and physical symptoms, occupational stress and absenteeism, which eventually result in an intention to leave the organisation, which leads to a high turnover rate for the organisation (Horn, 2014; Smith, 2003).

Carden, Bryant, and Moss (in Hadsell (2010)) found that people with an internal LoC showed lower academic procrastination and test anxiety, and reported higher academic achievement than people with an external LoC. Kirkcaldy, Shephard, and Furnham (2002) reported that people with a high internal LoC tend to have higher aspirations in life.

Individuals with an internal LoC tend to be proactive, and are more likely than externals to engage in problem LoC-focused coping behaviours (Wang et al., 2010) because it is believed that internal control are an imperative part of emotion, adjustment and ability to handle stress in general, and in the workplace (Spector, Cooper, Sanchez, O'Driscoll, Sparks, Bernin, 2002). According to Chen and Silverthorne (2008), LoC is incorporated in and applied to occupational behaviours, such as motivation, job performance, job satisfaction and leadership. Individuals with a positive level of internal LoC perform better or are more motivated, because they are more determined and committed to their goals

and will therefore persist longer in the attempt to achieve their goals (Chen & Silverthorne, 2008).

In 1962, Phares found that an individual with an internal LoC wants to have control over his or her environment. Such a person would be more likely to perform better in his or her tasks requiring skill (Selart, 2005). According to Taylor, et al. (2006), it is unmistakable that there are numerous inherent benefits linked to having an internal LoC, while an external LoC tends to be associated with performance-inhibiting factors. It is also evident that internals seem to be more involved in their jobs and display more satisfaction than externals (Singh, 2006). An internal LoC tends to be associated with job satisfaction and an external LoC with job dissatisfaction (Carrim, 2006).

The relationship between LoC and job performance is also a phenomenon that has been investigated in previous research. Hough (in Hattrup, O'Connell, and Labrador, 2005) and Judge and Bono (in Hattrup et al., 2005) reported significant correlations between LoC and overall job performance, and Hattrup et al. (2005) found significant relationships between LoC and job performance, after controlling for cognitive ability and conscientiousness.

LoC not only influences one's experience of stress, but also one's emotional upsets and similar illnesses (Dunn, Elsom, & Cross, 2007). External LoC is related to the experience of illness (Roddenberry, 2007). Externals are therefore likely to experience more psychological and physical symptoms and less life satisfaction and efficacy. According to Spector (2002), an internal LoC orientation or belief is an essential element of emotional adjustment and gives the individual the ability to cope with stress in general life and work.

In short, it can be concluded that individuals with an internal LoC are likely to perform better and be more committed in the working environment, whereas individuals displaying an external LoC will experience lower levels of work performance and commitment at work.

4.16 IMPORTANT PREVIOUS STUDIES

In a previous study done amongst mid-level managers in a leading coal mining organisation, Horn (2014) targeted a sample of 165 respondents. Through multiple

regression analysis she determined that sense of coherence and locus of control, are interlinked and have a specific influence on each other.

Rothmann (2003) found that sense of coherence and locus of control, combined with self-efficacy and coping strategies, predicted exhaustion and cynicism. In this research, only sense of coherence predicted professional efficacy. This is similar to findings from other researchers (Viljoen, 2013; Van der Colff & Rothmann, 2009). This may be due to the fact that sense of coherence and locus of control are highly correlated.

Horn (2014) believes that a strong sense of coherence within an individual will empower him / her to understand that stressful demands are part of their lives - such an individual will find the resources and motivation to overcome it. A strong sense of coherence, as predictor of professional efficacy, may be due to a positive cycle of reinforcement. If the individual consistently finds the means and motivation to overcome stressful situations, it positively impacts their assessment of their professional ability, which in turn provides the individual with the belief that he / she can overcome these demands. An individual who believes that outcomes are within their personal control, is likely to understand the cause and effect of these outcomes, and can alter their decisions and actions to minimize future stressful situations. This may subsequently increase their ability to cope and ultimately perform better within their working environments.

In a similar study done in a market research company with a sample of 179 participants Feldman (2011) analysed three variables, namely emotional intelligence, locus of control and sense of coherence. The Pearson product-moment correlation coefficient was used to calculate the correlations between the variables.

A significant positive relationship was apparent between the internal locus of control and sense of coherence variables, which suggests a significant correlation between these two variables. Feldman (2011) believes that an individual who exhibits, an internal locus of control and high levels of sense of coherence, is likely to perform well in a workplace and will demonstrate positive behaviours. Such an individual will be time focused, set goals, perform well academically and feel self-confident. He or she is also more likely to feel that he or she can cope with stress and make cognitive sense of the workplace.

There are limited research available on the relationship between coping, SoC and LoC. The researcher could not find any other studies done on those three constructs. There is therefore a need to conduct this research study.

4.17 SUMMARY

In order to develop strong, self-sustaining individuals in organisations, employees need to be able to withstand the forces of stressors and be able to cope with continuous changes in their working environment. Individuals who manifest a high SoC will assume responsibility for both themselves and for their performance at work. They will not be afraid to make decisions for themselves in the work situation (Antonovsky, 1987). It also appears that individuals who perform better in most employment situations possess a moderately strong internal rather than external LoC (Singh, 2006).

These internals therefore seem to be more successful in their careers and earn more money than externals. In general, it can be assumed that individuals with an internal LoC and strong SoC give their “all” in interpersonal and organisational situations by efficiently managing the psychological and non-psychological hurdles they may face to perform to their best potential (Singh, 2006).

Chapter 5 explains the research methodology used in this study.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 INTRODUCTION

In this chapter, the research methodology used in this study is discussed. The chapter outlines the collection instruments with the focus on their rationale, purpose, validity, reliability and dimensions. The justification for employing these instruments is also discussed. This research study was exploratory in nature, and hypotheses for the

research were formulated for the relationship between coping, LoC and SoC. The hypotheses were tested by means of descriptive and inferential statistics.

The approach adopted in this research was primarily exploratory and surveys were conducted to achieve the research goals.

The hypotheses of this research were formulated on the relationship between coping, LoC and SoC. These hypotheses were tested by means of descriptive and inferential statistics.

5.2 OBJECTIVES OF THE STUDY

The objective of this quantitative research was descriptive in nature and it was conducted to determine the status of the three constructs namely coping, LoC and SoC within the petrochemical company and further more specifically to determine the relationship between the three constructs.

5.2.1 Positivism paradigm

Positivism can be viewed as the existence of a straightforward relationship between the world, our perception and our understanding of it. The positivists maintain that it is probable that one may describe what is “out there” and get it right. Such a position is also referred to as the “correspondence theory of truth” because it suggests that phenomena directly determine one’s perception of them – hence the existence of a direct connection between things and their representation.

According to Morgan (1980) the main assumptions of the positivism paradigm are as follows:

- Society has a concrete real existence and a systematic character oriented to produce an ordered and regulated state of affairs.
- The positivist research perspective is primarily regulative and pragmatic in its basic orientation.

- Behaviour is always seen as being contextually bound in real-world, concrete and tangible social relationships.
- It is concerned with understanding society in a way that generates useful empirical knowledge.
- It encourages an approach to social theory that focuses on understanding the role of human beings in society.

Using the above explanations of the two paradigms and taking into account the validity of the study, it was therefore concluded that a post-positivist framework would be most appropriate for this study.

5.3 POPULATION AND SAMPLE

According to Saunders, Lewis, and Thornhill (2007), a population is defined as the full set of circumstances from which a sample is taken. It is therefore the complete collection of items, individuals or data under contemplation in a statistical study (Stephans, 2006). The section of the population selected for analysis is known as a sample. A *sample* is therefore a subgroup or part of a larger population (Saunders et al., 2007).

Samples can be categorised into different designs, namely random or probability sampling, non-random or non-probability sampling and “mixed” sampling. According to Babbie (2010), simple random sampling is the basic sampling method assumed in the statistical calculations of research. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher. In this research study, convenience sampling was used to select the respondents. Because of the large number of employees in the organisation, a large number of them could be reached over a wide geographical area.

The respondents were selected as a random sample of employees of which the population was within a specific South African petrochemical company. The population of this organisation encompasses approximately of 34 000 people worldwide in 38 operating countries. Questionnaires were randomly distributed to employees in the Petrochemical company. A sample of $n = 184$ returned the completed questionnaires.

Descriptive information on the sample is presented in table 5.1.

Table 5.1

Characteristics of respondents in the sample

Item	Category	Percentage	Response count
Gender	Male	34.8	64
	Female	65.2	120
Age group	18 – 25 years	6.5	12
	26 – 35 years	32.1	59
	36 – 42 years	17.9	33
	43 – 51 years	19	35
	52 and older	24.5	45
Cultural group	African	15.8	29
	White	78.7	144
	Coloured	3.3	6
	Asian	2.2	4
	Other	0	0
Educational level	Matric/Gr 12 (or equivalent)	24.7	45
	Undergraduate degree/diploma/certificate	50	91
	Honours degree or equivalent	12.6	23
	Master's degree or equivalent	8.8	16
	Doctoral degree or equivalent	0.5	1
	Other	3.3	6
Organisational level	Top management	0	0
	Senior management	3.8	7
	Middle management	29	53
	Skilled/professional	51.4	94
	Semi-skilled/operational	8.2	15
	Basic skills	7.7	14
Years' experience	0 – 3 years	22.3	41
	4 – 10 years	33.2	61
	11 – 20 years	20.7	38
	21 years and more	23.9	44

The biographical questionnaire assisted in obtaining personal information on the respondents. Most of the respondents were female (65.2%). This might be due to the fact that most females in the company are office based and have quicker and easier access to their emails. It is further evident from the information in table 5.1 that a third of the respondents were between the ages of 26 and 35 years (32.1%). The majority of the respondents were from a white cultural background (78.7%), which could be due to the fact that the majority of white Afrikaans-speaking people knew the researcher personally and could make a contribution towards her studies by completing the survey. Half of the respondents had a degree (50%), because most of the employees working in the organisation needs to be qualified. A total of 51.4% of all respondents considered themselves to be skilled professionals.

5.4 THE MEASURING INSTRUMENTS

The following measuring instruments were used in this study:

- the Sense of Coherence (SOC) Scale, developed by Antonovsky (1987) to measure an employee's SoC
- the Coping (COPE) Questionnaire, developed by Carver et al. (1989) to measure an employee's ability to cope
- the Locus of Control (LoC) Inventory, developed by Rotter (1966) to measure an employee's LoC

These three measuring instruments were chosen because they deemed to be the most relevant and applicable to this study.

The research instruments are discussed in more detail below.

5.4.1 The Sense of Coherence Scale (SoC)

In this section the rationale, purpose, validity, reliability, dimensions, interpretation, administration and the motivation for using this instrument in this study are discussed.

5.4.1.1 Rationale and purpose of the SoC

The most commonly used way of measuring SoC is to use the (SoC) scale developed by Antonovsky (in Gropp et al., 2007).

The SOC is a widely used instrument in medical as well as other research areas (Antonovsky, 1979). The concept of SoC was put forward by Aaron Antonovsky in 1979 to explain why some people become ill under stress and others remain healthy (Antonovsky, 1979). It arose from the salutogenic approach, that is, the search for the origins of health rather than the causes of disease (Antonovsky, 1979).

The original instrument consisted of 29 items with seven-point response scales (Gropp et al., 2007). There is now a 29-item and a 13-item version of the SOC and the items in the shorter version are simply a selection of 13 items from those included in the 29-item version (Gropp et al., 2007).

This SOC measures a person's worldview over time, and is designed to measure strengths in individuals that allow them to survive in the face of extreme stresses.

5.4.1.2 Validity and reliability of the SoC

Two important concepts relating to the measuring instruments that were used are validity and reliability. In a general sense, validity refers to whether the measuring instrument does what it is intended to do, whereas reliability refers to how consistently it does so. It is critical that the measurement of variables is both valid and reliable. If it is not, then researchers cannot be sure of what they are measuring. More specifically validity is the judgement or estimate of how well the test measures what it is projected to measure in a particular context. It is defined as the degree to which available evidence supports inferences made from scores on selection measures (Gatewood, Feild, & Barrick, 2008). Reliability in our daily life usually refers to something positive, for example, when we say someone is reliable. In the psychometric context, reliability is about consistency, not necessarily consistently good or bad. Reliability is defined as the degree of dependability, consistency, or stability of scores on a measure used in selection research (Gatewood et al., 2008).

The SoC Scale has been used in at least 33 languages in 32 countries with at least 15 different versions. The validity of the theoretical dimensions of meaningfulness, manageability and comprehensibility were explored by means of exploratory factor analysis.

(a) Testing the reliability of the construct

The overall Cronbach alpha value for reliability in this study can be interpreted as follows: a Cronbach alpha above 0.8 indicates good reliability; a Cronbach alpha between 0.6 and 0.8 indicates acceptable reliability; and a Cronbach alpha below 0.6 indicates unacceptable reliability. Some authors use another cut-off of 0.7, which is suggested by Nunnally (1978) for acceptable reliability.

Table 5.2

Testing the reliability of the construct SoC

Variables	Items	Items left out	Cronbach alpha	Reliability
Comprehension	1, 3, 5, 10, 12, 15, 17, 19, 21, 24, 26	3,12,19,21,24	0.55	Unacceptable reliability
Manageability	2, 6, 9, 13, 18, 20, 23, 25, 27, 29	9, 29	0.61	Acceptable reliability
Meaningfulness	4, 7, 8, 11, 14, 16, 22, 28	28	0.75	Acceptable reliability

According to the Cronbach alpha values, one of the variables tested, namely comprehension, was found to be unreliable, and was not used in this study. This could be due to the fact that so many years have passed since this questionnaire was initially designed. Times have changed and so has the working environment in the sense that people in different organisations are busier and have different priorities compared to the situation 10 or 20 years ago.

Questions such as “your life in the future will probably be” and “do you have very mixed-up feelings and ideas“ are questions that could easily be misinterpreted and questions that would provide different answers for different scenarios. The answers given by the

respondents in the specific organisation, at the time of the study might change if they are asked in two or three months' time, which indicates instability and nonreliability.

5.4.1.3 Dimensions of the SoC

The SoC consists of 29 items and three dimensions. According to Antonovsky (in Gropp et al., 2007), the SoC was developed mainly to measure sense of coherence as a global orientation, although the scale yields scores on each of three dimensions, namely comprehensibility, manageability and meaningfulness.

Each item includes four facets describing the stimulus, including a fifth SoC facet that expresses one of the three components of SoC, namely comprehensibility, meaningfulness and manageability.

Dimension 1: Comprehensibility

Comprehensibility is the extent to which events are perceived as making logical sense, and that they are ordered, consistent and structured (Collingwood, 2006b).

An individual with a high score on comprehensibility will indicate that he or she expects that the stimuli he or she encounters in the future will be predictable. Hence the individual will be able to make sense of the stimuli. The opposite is true of a low score on comprehensibility (Antonovsky, in Gropp, 2006).

Dimension 2: Manageability

Manageability is the extent to which a person feels he or she can cope (Collingwood, 2006a). An individual with a high score of manageability will indicate that he or she will not feel victimised by events or feel that life treats him or her unfairly (Antonovsky in Gropp, 2006). These individuals know that they will be able to cope with day-to-day life. A person with a low score is likely to feel like a victim.

Dimension 3: Meaningfulness

Meaningfulness is how much one feels that life makes sense, and challenges are worthy of commitment (Collingwood, 2006a). Individuals with a strong sense of meaningfulness will understand the meaning of the important areas in their life and this will make cognitive and emotional sense to them. Life thus makes sense emotionally (Antonovsky in Gropp,

2006). Respondents who score poorly on meaningfulness tend to feel that life does not make sense to them.

In the scale, there are 11 items for the comprehensibility dimension, ten items for manageability and eight items for meaningfulness (Antonovsky in Gropp et al., 2007).

5.4.1.4 Interpretation of the SoC

The seven-point Likert scale was used to rate the respondents' responses. A Likert scale is a psychometric scale commonly involved in research that uses questionnaires. It is the most widely used approach to scaling responses in survey research (Wuensch, 2005). When responding to a Likert questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. The range therefore captures the intensity of their feelings for a given item (Burns & Burns, 2008).

According to Dawes (2008), the five ordered response levels are often used, although many psychometricians believe in using the seven or nine levels. A recent empirical study found that items with five or seven levels might produce slightly higher mean scores relative to the highest possible score (Dawes, 2008).

Examples:

In this questionnaire a seven-point Likert format was used:

On a scale of 1 to 7, with 1 being never have this feeling, and 7 being always have this feeling, please rate.

When you talk to people, do you have the feeling that they don't understand you?

1 Never have this feeling

2

3

4

5

6

7 Always have this feeling

Thirteen negatively phrased items are included, but the scale is reverse scored so that a higher score reflects a stronger SoC (Antonovsky in Groppe et al., 2007).

According to Antonovsky (in Groppe, 2006), an individual with a strong SoC will score highly on the three components (comprehensibility, manageability and meaningfulness), and an individual with a poor SoC will score low on the three components.

5.4.1.5 Administration of the SoC

The SoC is a self-administered survey. Clear instructions on how to complete the questionnaire were given to each respondent. The items were ordered in a statement format and each statement had a rating scale. Respondents rated each statement on their observations of SoC.

Each question had seven possible answers, marked with the number which expresses the answers, with numbers 1 and 7 being the extreme answers. The scale took approximately 15 minutes to complete, and was developed for either self-completion or to be used as part of an interview setting (Groppe, 2006).

In this study, only completed questionnaires were used and those questionnaires that had multiple ratings or that were in any way incomplete were discarded.

5.4.1.6 Motivation for using the SoC

The SoC was designed to measure SoC as a global alignment and has been accepted as a culture-free questionnaire (Groppe, 2006). The focus is on the three components of SoC, namely comprehensibility, meaningfulness and manageability. Since the purpose of this study was not to make individual predictions on SoC, but to investigate the trends and relationships between variables, the researcher felt that the SoC would be an appropriate tool to use as part of the assessment in this study.

The inclusion of the SoC in this research study endorses the understanding of the wellness and its clear connection to SoC. Walker (2002) confirms this by stating that SoC is a vital determinant of psychological wellness. Moomal (1999) concurs with this view by

pointing out that several studies have explored the relationship between psychological well-being and meaning or purpose in life as operationalised by the SoC Scale. Van Eeden (1996) describes SoC as a dispositional orientation and a dynamic aspect of psychological wellness.

5.4.2 The Locus of Control Scale (LoC)

In this section, the rationale, purpose, validity, reliability, interpretation, administration and motivation for the use of this instrument in this study are discussed.

5.4.2.1 Rationale and purpose of the LoC

The LoC was developed to measure the LoC of an individual based on the two factors of internal and external control. The concept was originally developed by Julian Rotter in the 1950s (Rotter, 1966).

Rotter (1966) developed a 29-item LoC questionnaire. Since then, many others have tested and refined the concept and the measurement tool (e.g. Marsh & Richards, 1986). Rotter's original instrument is still in widespread use. This scale was used and further refined in two doctoral dissertations by students of Rotter, was then expanded to 60 items, and then through a series of studies, was reduced to a 29-item forced-choice scale that includes six items and 23 items pertaining to locus of control regarding achievement, affection, social attitudes and political perspectives (Rotter, 1966).

5.4.2.2 Validity and Reliability of the LoC

According to Schepers, Groppe, & Geldenhuys (2006), internal locus of control is strongly related to psychological wellness, and external control negatively to stress management. Eisinga, Te Grotenhuis, & Pelzer (2013) and Domino and Domino (2006) further state that the literature is complete with studies which support construct validity of the questionnaire and the concept. The validity of the theoretical dimensions of the LoC was explored by means of exploratory factor analysis. Cureton and D'Agostino (1983, p. 2) describe factor analysis as "a group of procedures used to determine the relation among a set of random variables".

According to them, the purpose “is to account for the inter-correlations among variables, by assuming a set of common factors, considerably fewer in number than the number, n, of these variables”.

(a) Testing the reliability of the construct

The overall Cronbach alpha value for reliability in this study was interpreted as follows: a Cronbach alpha above 0.8 indicated good reliability; a Cronbach alpha between 0.6 and 0.8 indicated acceptable reliability; and a Cronbach alpha below 0.6 indicated unacceptable reliability. Some authors use another cut-off of 0.7, which is suggested by Eisinga, Te Grotenhuis, & Pelzer (2013) and Nunnally (1978) for acceptable reliability.

Table 5.3

Testing the reliability of the construct LoC

Variables	Items	Cronbach alpha	Reliability
Locus of control	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29	0.75	Acceptable reliability

According to the Cronbach alpha values, the variables that were tested were reliable. Items 1, 8, 14, 19 was found to be unreliable and were omitted.

5.4.2.3 Interpretation of the LoC

The LoC was developed to determine the degree to which the individual has an internal versus external locus of control. The scale includes six filler items (items that do not have relevance to LoC) and 23 items pertaining to LoC regarding achievement, affection, social attitudes and political perspectives (Rotter, 1966). This scale is a forced-choice paradigm in which a person chooses between an internal or external interpretation. Rotter believed that LoC could vary based on circumstances. He also felt that people could trend towards internality or externality as a personality trait, and his scale was designed to assess this more general situation (Rotter, 1966).

For each question, a mark is allocated to specific answers (indicating an internal or external point of view), and the marks are then added. A low score in this test indicates a strong external locus of control, which means that the person believes his or her life is not controlled by actions as much as it is by other external forces. A high score, however, indicates an internal locus of control, which means that the person believes his or her actions are what determine his or her course of life.

For example: In this questionnaire, a forced-choice paradigm format was used.

For each question, select the statement you agree with the most.

- a. Children get into trouble because their parents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.

5.4.2.4 Administration of the LoC

The present questionnaire is a 29-item forced choice scale, which includes six filler items that are used to mask the intent of the questionnaire. The scale presents the respondents with sets of items from which they select the ones that they most believe, for example: (1) becoming a success is a matter of hard work; or (2) getting a good job depends on being at the right place at the right time. For each pair, one statement represents an internal locus of control and the matching statement an external locus of control. The score is the total number of external choices. Each respondent's score for the scale has a potential range from 0 to 29, where a score of 29 indicates an extreme external LoC and 0 an extreme internal LoC. The questionnaire takes approximately 10 minutes to complete.

5.4.2.5 Motivation for using the LoC

According to Forte (2005), Rotter's 29-item scale is the instrument that is most often used to determine the degree of internality versus externality. The LoC inventory was developed to measure the LoC of an individual based on two factors, namely internal and external control (Rotter, 1966). Since the purpose of this study was not to make individual predictions on LoC, but to investigate the trends and relationships between variables, the

researcher deemed the LoC to be an appropriate tool to use as part of the assessment in this study.

5.4.3 Coping (COPE)

In this section, the rationale, purpose, validity, reliability, interpretation, administration and the motivation for the use of this instrument in this study are discussed.

5.4.3.1 Rationale and purpose of COPE

The COPE inventory was designed to assess, by means of a multidimensional coping inventory, the different ways in which people respond to stressful events and/or a specific stressful episode, and the coping strategies they use (Carver et al. 1989).

COPE is a self-report coping questionnaire that measures 14 different coping strategies and consists of the following subscales: Problem-focused, emotion-focused and avoidance coping. The final edition includes 13 subscales with four items each. The 14th subscale comprises only one item and measures alcohol and drug disengagement (Carver et al., 1989). In this model, coping is considered to reflect a response to specific stressors rather than a pattern of a core personality trait. Hence if one's appraisal is emotionally negative, responses would be to reduce the negative emotion. However, since there are individual differences in interpreting situations, according to this model, behaviour prediction is difficult (Takagishi, Sakata, & Kitamura, 2014).

The inventory includes some responses that are expected to be dysfunctional, and some that are expected to be functional. There are many functional ways to cope with the onslaught of hurtful arrows bombarding us from all angles, so it is to our benefit to develop as many of these positive coping skills as we can (Carr, 2004). Functional coping strategies are fitting where stressors are unavoidable and unmanageable. Dysfunctional defence mechanisms allow us to avoid reality, while functional coping skills help us deal to deal with it. Dysfunctional coping strategies may lead to short-term relief but, in the long term, they tend to conserve rather than resolve stress-related problems (Carr, 2004).

5.4.3.2 Validity and reliability of COPE

In Van Jaarsveld (2004), the alpha coefficients of the coping strategies ranged from 0.64 to 0.94 with active coping, expressing emotions, turning to religion and seeking social support being the only acceptable results at 0.84, 0.86, 0.94, and 0.83 respectively. Validity on the theoretical dimensions of COPE was explored by means of exploratory factor analysis. According to Bryman and Cramer (1990, p. 23) factor analysis can be broadly defined as "a number of connected statistical techniques which help us to determine the characteristics which go together".

(a) *Testing the reliability of the construct*

The overall Cronbach alpha value for reliability in this study was interpreted as follows: a Cronbach's alpha above 0.8 indicated good reliability; a Cronbach alpha between 0.6 and 0.8 indicated acceptable reliability; and a Cronbach alpha below 0.6 indicated unacceptable reliability. Some authors use another cut-off of 0.7, which is suggested by Eisinga, Te Grotenhuis, & Pelzer (2013) and Nunnally (1978) for acceptable reliability.

Table 5.4

Testing the reliability of the construct of coping

Variables	Items	Cronbach alpha	Reliability
AC: Active coping	6,23,32,45	0.61	Acceptable reliability
PLN: Planning	9,20,35,47	0.73	Acceptable reliability
SCA: Suppressing competing activities	5,19,38,46	0.43	Unacceptable reliability
RC: Restraint coping	4,18,31,44	0.50	Unacceptable reliability
SSSIR: Seeking social support for instrumental reasons	1,22,34,41	0.77	Acceptable reliability
SSER: Seeking social support for emotional reasons	8,15,28,49	0.84	Good reliability
PRG: Positive reinterpretation	3,17,30,43	0.73	Acceptable reliability
ACP: Acceptance	7,21,33,48	0.67	Acceptable reliability
TTR: Turning to religion	10,24,37,51	0.90	Good reliability
FVE: Focusing on and venting of emotions	14,27,40,53	0.67	Acceptable reliability
DNL: Denial	2,16,29,42	0.78	Acceptable reliability
BD: Behavioural disengagement	13,26,39,50	0.68	Acceptable reliability
MD: Mental disengagement	11,25,36,52	0.43	Unacceptable reliability
AD: Alcohol-drug disengagement	11,25,36,52	0.43	Unacceptable reliability

According to the Cronbach alpha values, all of the variables tested were reliable, except for the following four: AD: Alcohol-drug disengagement; MD: Mental disengagement; RC: Restraint coping; and SCA: Suppressing competing activities. The latter items had an overall Cronbach alpha value of less than 0.6, meaning that the variable was unacceptable, and for this reason it was not used further. Owing to the fact that these are survey type questions, the respondents did not have a direct representative to ask if they did not understand the question. This could lead to falsified answers and might be a reason for these items being unreliable. Questions like “I sleep more than usual” can be somewhat confusing as the respondent might not understand exactly what is regarded

as more than usual. “I restrain myself from doing anything too quickly” can also easily be misinterpreted and not answered correctly. None of the items were omitted.

5.4.3.3 Dimensions of COPE

This multidimensional coping inventory aims to assess the different ways in which people respond to stress (Carver et al., 1989).

Five scales (of four items each) measure conceptually distinct aspects of problemfocused coping, namely active coping, planning, suppression of competing activities, restraint coping and seeking instrumental social support (Carver et al., 1989).

Five scales measure aspects of what might be viewed as emotionally focused coping, namely seeking emotional social support, positive reinterpretation, acceptance, denial and turning to religion (Carver et al., 1989).

Three scales measure coping responses that arguably are less useful, namely focus on and venting of emotions, behavioural disengagement and mental disengagement (Carver et al., 1989).

The list below presents the different scales together with an example item (Carver et al., 1989).

Active coping: I take additional action to try get rid of the problem.

Planning: I try to come up with a strategy about what to do.

Suppression of competing activities: I put aside other activities in order to concentrate on this.

Restraint coping: I force myself to wait for the right time to do something.

Seeking social support for instrumental reasons: I ask people who had similar experiences what they did.

Seeking social support for emotional reasons: I talk to someone about how I feel.

Positive reinterpretation and growth: I look for something good in what is happening.

Acceptance: I learn to live with it.

Turning to religion: I seek God's help.

Focus on and venting of emotions: I get upset and let my emotions out.

Denial: I refuse to believe that it has happened.

Behavioural disengagement: I give up at the attempt to get what I want.

Mental disengagement: I go to movies or watch TV, to think about it less.

Besides the 52 items distributed among the scale above, a fifty-third item was included that relates to alcohol or drug use (I drink alcohol or take drugs, in order to think about it less).

5.4.3.4 Interpretation of COPE

The COPE measures individual coping styles/subscales that can be grouped into three meta-strategies, namely problem-focused, emotional and less useful/avoidant coping. It instructs participants to indicate what they normally do and feel when they experience stressful events.

In this questionnaire, a four-point Likert format was used.

On a scale of 1 to 4, with 1 being "I usually don't do this at all" and 4 being "I usually do this a lot, please rate. For example:

"I talk to someone who can do something concrete about the problem".

1 I usually don't do this at all

2 I usually do this a little bit

3 I usually do this a medium amount 4 I usually do this a lot

5.4.3.5 Administration of COPE

COPE is a self-report coping questionnaire that measures 14 different coping strategies and consists of the following subscales: Problem-focused, emotion-focused and avoidance coping.

This questionnaire asks respondents to indicate what they generally do and feel when they experience stressful events. Obviously, different events evoke somewhat different responses. Participants were asked to indicate what they usually do when they are under considerable stress. The questionnaire takes approximately 20 minutes to complete.

5.4.3.6 Motivation for using COPE

COPE was designed to assess, by means of a multidimensional coping inventory, the different ways people respond to stressful events and/or a specific stressful episode, and the coping strategies that they use (Carver et al., 1989). The COPE inventory has previously been tested in different studies and it has been found to have psychometric properties (Carver et al., 1989). Since the purpose of this study was not to make individual predictions on coping, but to investigate the trends and relations between variables, the researcher felt that the COPE scale would be an appropriate tool to use as part of the assessment in this study.

5.5 DATA COLLECTION

According to Babbie (2010) many different varieties of data collection exist. At the one end of this continuum are quantitative methods and at the other end of the continuum are qualitative methods for data collection. In this study, quantitative data analysis was used. Quantitative methods emphasise objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalising it across groups of people or to explain a particular phenomenon (Babbie, 2010).

Typical quantitative data gathering strategies include the following:

- surveys with closed-ended questions (e.g. face-to face and telephone interviews, and questionnaires)
- obtaining relevant data from management information systems
- experiments/clinical trials

- observing and recording well-defined events (e.g. counting the number of patients waiting in emergency at specified times of the day)

In this study, questionnaires were used because the following data collection procedure was followed:

A random sample received an electronic link to the three construct questionnaires, the biographical questionnaire and an email letter explaining the aim of the study. The respondents were also requested to complete the letter of informed consent.

The researcher explained the purpose of the study, the confidentiality of the respondents and instructions on how to complete the questionnaires via an electronic email sent to each respondent's personal email address.

A biographical questionnaire was included containing questions on age, gender, level of work experience, qualification level, cultural group and years of experience with the organisation.

The COPE, LoC and SoC were distributed to the respondents via a link.

The respondents completed the questionnaires online by accessing the link and submitting the completed questionnaire online.

Prior to data collection, the necessary permission was obtained from senior management as well as the human resources department in the company to administer the instruments in the organisation. They provided the company's consent to proceed with the data collection.

As pointed out earlier, the COPE, LoC and SoC were used as measuring instruments. The three questionnaires were sent to each respondent electronically. The questionnaires were completed by a total of 184 individuals. The questionnaires were scored, captured and compiled into a spreadsheet for statistical analysis and interpretation. The research was then coded and the data set made available for processing and analysis.

5.5.1 Advantages of quantitative methods

The ability to reach respondents is one challenge of surveys. However, surveys have both advantages and disadvantages. The advantages include the following: ease of administration; less time to develop; cost-effectiveness; remote online administration via mobile devices, mail or email; and the ability to ask numerous questions on a subject, ensuring extensive flexibility in data analysis (Wyse, 2012).

Another advantage of questionnaires is that the respondents have time to think about the answers to the questions in the questionnaire and that a large number of respondents can be reached over a large geographical area (Babbie & Mouton, 1998).

5.5.2 Disadvantages of quantitative methods

A researcher needs to take a number of disadvantages into account when considering the application of a questionnaire. Firstly, the researcher is not always available to explain uncertainties which may result in inaccurate or distorted answers provided by the respondents. Secondly, researchers cannot visually observe the respondent's reactions, physical characteristics or setting (in the case of mail questionnaires) and thirdly, the accuracy and extensiveness of the responses to the questions are often inadequate (Babbie & Mouton, 1998).

The disadvantages also include the following: the fact that respondents may not feel encouraged to provide accurate, honest answers; surveys with closed-ended questions may have a lower validity rate than other question types; and survey question answer options could lead to unclear data because certain answer options may be interpreted differently by respondents (Wyse, 2012). For example, the answer option "somewhat agree" may represent different things to different subjects, and have its own meaning for each individual respondent. "Yes" or "no" answer options can also be problematic.

Respondents may answer "no" if the option "only once" is not available (Wyse, 2012).

5.6 ETHICAL CONSIDERATIONS

According to Paul and Elder (2006) of the Foundation for Critical Thinking, most people confuse ethics with behaving in accordance with social conventions, religious beliefs and the law, and do not treat ethics as a stand-alone concept. Paul and Elder (2006) define ethics as a set of concepts and principles that guide us in determining what behaviour helps or harms sentient creatures.

The research was conducted in an ethical manner to uphold all personal principles and values. Three fundamental ethical principles were identified to guide the researcher, namely generosity, respect for the respondents and integrity. These principles are based on the human rights of all respondents that need to be protected in the research study, namely the right to self-determination, privacy, anonymity and confidentiality, fair treatment and being protected from discomfort and harm (Brink, Van der Walt, & Van Rensburg, 2012).

The ethical guidelines and standards of the University of South Africa formed the basis on which the research was conducted. These considerations formed part of every step of the research process to ensure that they guided the researcher during the study. All respondents were informed of the purpose of the study and that their participation was purely voluntary. They were assured that their identity would remain confidential at all times. The respondents were aware that the research results would be shared with the management of the organisation and that they would have access to these results if they were interested. The respondents and management were further aware that there was a possibility that articles derived from this research might be published in accredited journals.

The respondents had a choice to form part of the study or to withdraw at any time, if they experienced any discomfort at any time. The privacy, confidentiality and anonymity of respondents were honoured. The results of the research would be made available to the respondents by communicating the results to the management team of the different departments. The researcher strove to maintain objectivity and integrity in conducting the research.

To ensure that the researcher met the ethical requirements, the following ethical principles were adhered to:

- conducting research within recognised parameters
- obtaining appropriate approval from the host organisation (presentation proposals were made to the different managers from the different areas, as well as presentations to the board of psychologists)
- using both traditional and recent resources to analyse and describe the concepts
- entering into an informed agreement with respondents
- informing respondents about the results of the research
- providing an opportunity for obtaining appropriate information of the research by reporting the research process and findings in the form of a dissertation

All the respondents' informed consent was obtained by means of a consent letter and they were assured that they would remain anonymous at all times. All respondents were treated with dignity, respect and there was no form of discrimination. Adherence to statistical procedures ensured the reliability and validity of the results.

5.7 STATISTICAL ANALYSES

In this section, the statistical methods used to analyse the data and the process followed in analysing and interpreting the data are discussed. This was a correlational study in that the research focused on the relationship between variables.

In this study, data analysis consisted of determining whether there was a relationship between coping, LoC and SoC.

According to Trochim (2006), the three main steps in data analysis are as follows: cleaning and organising, which involves examining the data; checking the data for accuracy, entering them into the processor, transforming them; developing and documenting a database structure that integrates the different measures; and describing the data, which involves portraying the basic characteristics of the data in a study. Such a description provides simple summaries of the sample and instrument and testing the

hypotheses and models, which is the last stage in the data analysis process, as identified by Trochim (2006). This stage uses inferential statistics to examine thesis statements, research questions and hypotheses. In many instances, the conclusions drawn from the inferential statistics go further than the immediate data alone.

In this study, the SAS JMP statistical analysis package was used for the statistical analysis of the results.

The process for the correlation study was as follows:

- Correlation analyses were conducted to investigate the direction and strength of the variables measured by the LoC, SoC and COPE. The Pearson correlation coefficient was used because the variables were normally distributed.
- Inferential statistics were applied to enable the researcher to make inferences about the data. Linear regressions were performed to investigate the effect of the LoC and SoC on COPE

5.7.1 Descriptive statistics

Descriptive statistics are the type of statistics based on the sample, and refer to the collection of methods for classifying and summarising numerical data. Here the goal is to describe. Numerical measures are used to examine the features of a set of data.

Descriptive statistics for gender, age, race, educational level, occupational level and work experience were generated. Frequency tables were used to indicate the distribution of biographical variable data and enabled the researcher to describe the sample population in terms of these variables. Also meaning here that means were used to determine the levels of SoC, LoC, and COPE.

5.7.2 Inferential statistics

Inferential statistics are the mathematical methods that employ probability theory for deducing (inferring) the properties of a population from the analysis of the properties of a

data sample drawn from them. Inferential statistics are also concerned with the precision and reliability of the inferences they help to draw. The following types of inferential statistics were used in this study:

5.7.2.1 Regression analysis

In statistics, regression analysis is a statistical process for estimating the relationships between variables. It includes many techniques for analysing and modelling variables, when the focus is on the relationship between a dependent variable and one or more independent variables. More specifically, regression analysis helps one understand how the typical value of the dependent variable (or "criterion variable") changes when any one of the independent variables varies, while the other independent variables are held fixed (Freedman, 2005). Regression analyses were conducted to identify the variables that would provide the best possible explanation of the dependent variable. Regression analysis was performed on LoC and SoC, and coping in order to predict the relationship between these variables.

5.7.2.2 Pearson correlation

The Pearson product-moment correlation coefficient (or Pearson correlation coefficient, for short) is a measure of the strength of a linear association between two variables and is denoted by r . Basically, a Pearson product-moment correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r , indicates how far away all these data points are to this line of best fit (i.e., how well the data points fit this new model/line of best fit). The Pearson correlation coefficient, r , can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association; that is, as the value of one variable increases, so does the value of the other variable. A value less than 0 indicates a negative association; that is, as the value of one variable increases, the value of the other variable decreases (Hinkle, Wiersma, Jurs, 2003).

5.7.2.3 Level of significance

A level of significance (or level of rejection) refers to the probability with which the researcher is willing to reject the null hypothesis when it is in fact correct (Howell, 1995).

Thus, whenever the probability (p-value) gained under the null hypothesis is less than or equal to the preset significance level, the null hypothesis is rejected. The level of significance was determined as $p=0.05$.

5.8 FORMULATION OF THE STATISTICAL HYPOTHESES IN THIS STUDY

A hypothesis is a precise statement in which something is predicted (Trochim, 2006). It describes in real terms what one anticipates or predicts will happen in the research study. Research hypotheses were formulated in order to achieve the objectives of the study.

The hypotheses below were formulated for testing the relationship between SoC, LoC and coping to enable empirical testing between these three variables.

The research hypotheses formulated to achieve the objective of this study were as follows:

Research	Description hypothesis
H01	There is no statistically significant relationship between the variables coping and SoC
Ha1	There is a statistically significant relationship between the variables coping and SoC
H02	There is no statistically significant relationship between the variables coping and LoC
Ha2	There is a statistically significant relationship between the variables coping and LoC
H03	There is no statistically significant relationship between the variables SoC and LoC
Ha3	There is a statistically significant relationship between the variables SoC and LoC
The hypotheses in this research study were tested by analysing the relationship between coping, SoC and LoC.	

5.9 SUMMARY

In this chapter, the research methodology was explained and the statistical methods used to evaluate the data obtained from the questionnaires examined. The objectives of the study were formulated, and the population and sample discussed in conjunction with the measuring instruments and validity and reliability of these instruments. The methods used for data collection and statistical analyses were also explained. The formulation of the statistical hypotheses was discussed. The results of the study are reported in chapter 6.

CHAPTER 6

RESEARCH RESULTS

6.1 INTRODUCTION

The objective of this chapter is to statistically determine the relationship between coping, LoC and SoC that manifested in a sample of respondents working in various departments in an internationally recognised petrochemical organisation. In this chapter, the statistical results of the study are discussed and the empirical research findings integrated with the research findings. The statistical results of this study are reported in terms of descriptive and inferential statistics.

The results were aligned to the methodology discussed in chapter 5.

6.2 OBJECTIVES

The objective of this study is to determine the status of the three constructs namely coping, LoC and SoC within the petrochemical company further more specifically to determine the relationship between the three constructs.

6.3 DESCRIPTIVE STATISTICS

Descriptive statistics describe the main features of a collection of data quantitatively (Mann, 2010). They are a set of brief descriptive coefficients that summarise a given data set, which can either be a representation of the entire population or a sample (Dodge, 2003).

According to Diamantopoulos and Schlegelmilch (2000), the purpose of descriptive analysis is to provide an early opportunity for checking whether the distributional assumptions are likely to be satisfied. They help detect faults in the coding process, are a means for presenting the data in a intelligible manner through the use of tables or graphs. They provide introductory insights into the nature of the responses obtained as reflected in the distribution of values for each variable of interest and provide summary measures of “typical” or “average” responses. Item reliability using the Cronbach alpha coefficients for the SOC, LOC and COPE were reported and interpreted in chapter 5. The purpose was to establish the internal consistency of each of the constructs used in this study. It was important to determine so that scores can be calculated for these constructs.

In the sections to follow, frequency tables are used to indicate the distribution of biographical variables in order to describe and provide summary information to the sample population in terms of these variables. Furthermore, the means and standard deviations for the constructs are interpreted.

6.3.1 Sample description in terms of the biographical details

As indicated in chapter 5, a simple random sample of 207 employees in a petrochemical organisation was selected for this study. The three measuring instruments (COPE, LoC and SoC), the biographical questionnaire and the consent form (Appendix 1 and Appendix 2) were completed by a total of 184 participants, making the response rate 89%.

Biographical data in the study were collected on the respondents' gender, age, cultural group, educational level, organisational level and work experience. The sample is now described in terms of each of these variables.

6.3.1.1 Gender distribution of the sample

Table 6.1 illustrates the gender distribution of the sample.

Table 6.1

Gender distribution of the sample

Gender	N	Percentage of the sample
Male	64	35 %
Female	120	65 %
Total:	N = 184	100 %

According to table 6.1 and figure 6.1, 35% of the respondents were male and 65% female. More than half of the respondents were female, which will be discussed in the limitations of the study. A higher number in female response could have been due to the accessibility of females to computers in this specific organisation. Figure 6.1 provides a graphic representation of the gender distribution of the sample.

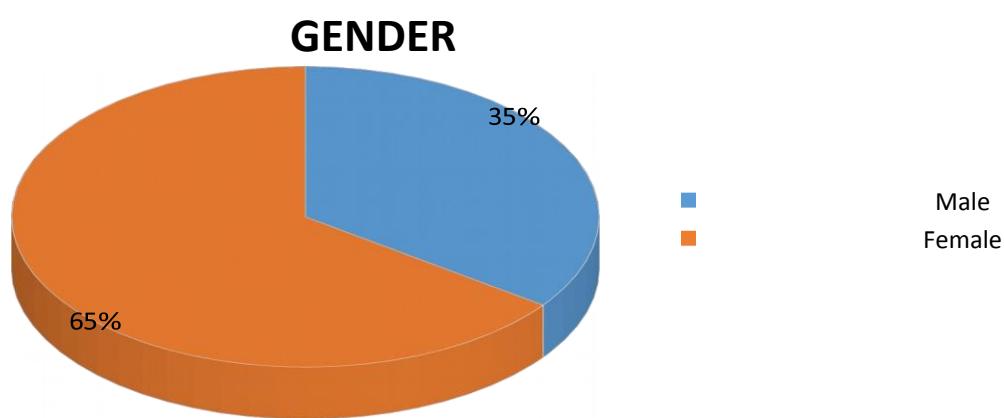


Figure 6.1. Gender distribution of the sample

6.3.1.2 Age distribution of the sample

Table 6.2 illustrates the age distribution of the sample.

Table 6.2

Age distribution of the sample

Age group	Frequency	Percentage of the sample
Valid: 18 – 25 years	12	7%
26 – 35 years	59	32%
36 – 42 years	33	18%
43 – 51 years	35	19%
52 and older	45	24%
Total:	N = 184	100%

It is evident from table 6.2 and figure 6.2 that 7% of the respondents were between the ages of 18 to 25 years, 32% were between the ages of 26 to 35 years, 18% were between the ages of 36 and 42 years, 19% were between the ages of 43 and 51 years and 24% were 52 years or older. There was almost an equal distribution between the different age groups (except for the ages between 18 to 25). This specific organisation tends to employ young individuals who are schooled and who most likely have a degree or some sort of tertiary qualification – hence the large percentage of individuals between 26 and 35 years. The second largest age group was 52 years of age and older. Figure 6.2 provides a graphic representation of the age distribution of the sample.

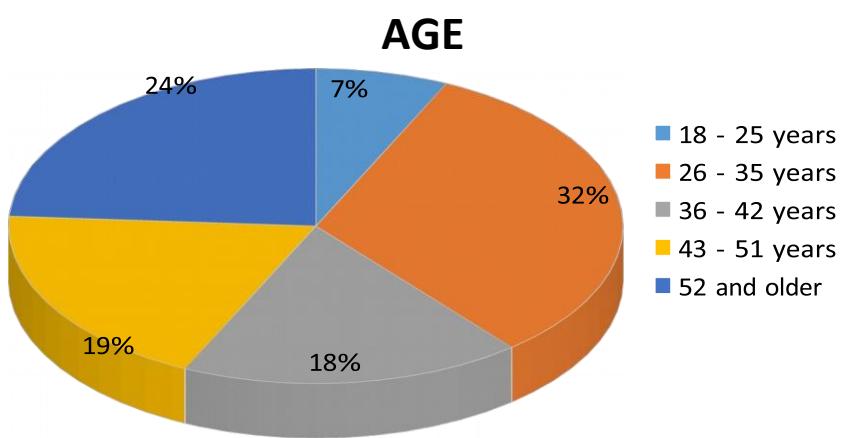


Figure 6.2. Age distribution of the sample

6.3.1.3 Cultural group distribution of the sample

Table 6.3 illustrates the cultural group distribution of the sample.

Table 6.3

Cultural group distribution of the sample

Cultural group	Frequency	Percentage of the sample
Valid: African	30	16%
Asian	4	2%
Coloured	6	3%
White	144	79%
Total:	N = 184	100%

According to table 6.3 and figure 6.3, 16% of the respondents were African, 2% Asian, 3% coloured and 79% were of the white cultural group. In this specific sample, the white cultural group completed most of the questionnaires with 79% representation, which forms part of the limitations of the study; the Asian cultural group represented the least, with only 2%. The reason for the majority of white respondents might be due to the fact that most of the Afrikaans-speaking people knew the researcher personally and could have made a contribution towards her studies by completing the survey. Figure 6.3 provides a graphic representation of the cultural group distribution of the sample.

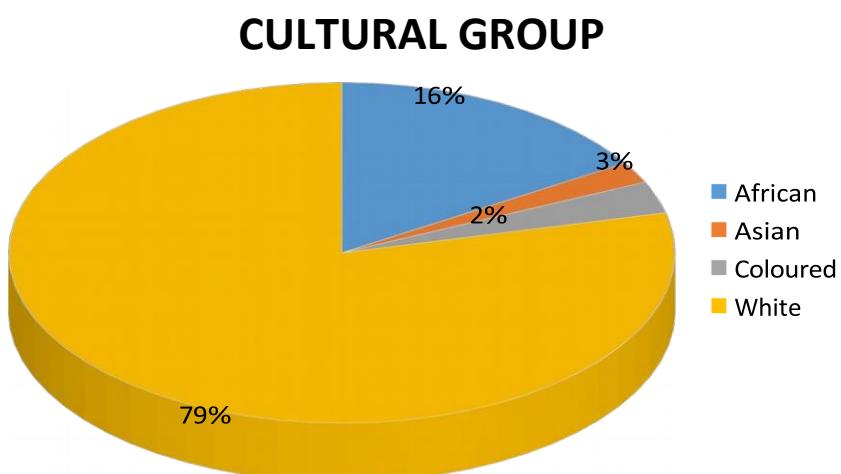


Figure 6.3. Cultural group distribution of the sample

6.3.1.4 Level of education distribution of the sample

Table 6.4 illustrates the level of education distribution of the sample.

Table 6.4

Level of education distribution of the sample

Level of education	Frequency	Percentage of the sample
Valid: Matric/Gr 12 (or equivalent)	45	25%
Undergraduate degree / diploma/certificate	91	50%
Honours degree or equivalent	23	13%
Master's degree or equivalent	16	9%
Doctoral degree or equivalent	1	0.5%
Other	6	3%
Questions not answered:	2	
Total:	N = 182	100%

According to the data in table 6.4 and figure 6.4, 25% of the respondents had a matric/Gr 12 or equivalent qualification, 50% an undergraduate degree/diploma/certificate, 13% an honours degree or equivalent, 9% a master's degree or equivalent, 0.5% a doctoral degree or equivalent and 3% another educational qualification. A Grade 12 qualification is the minimum requirement for employment in certain positions in the organisation in the study. In this organisation, opportunities for further studies through the organisation are available to all employees, which might be the reason for so many employees having an undergraduate degree/diploma or certificate. Two participants did not indicate their educational level, but because of the higher volume of respondents who did answer this question, the two respondents who did not answer this specific question had no effect on the outcome of the study. Figure 6.4 provides a graphic representation of the level of education distribution of the sample.

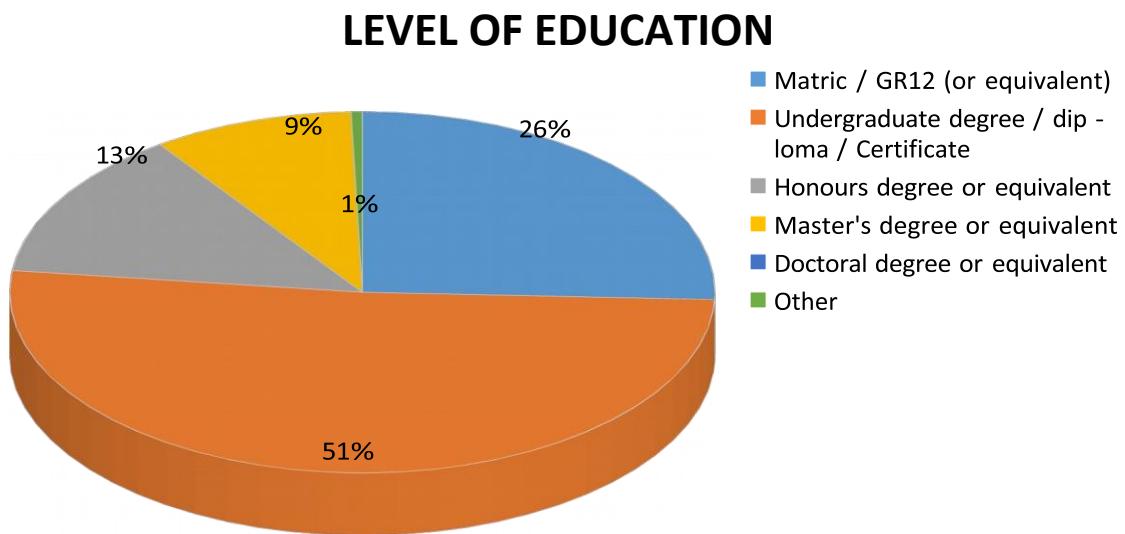


Figure 6.4. Level of education distribution of the sample

6.3.1.5 Organisational level distribution of the sample

Table 6.5 illustrates the organisational level distribution of the sample.

Table 6.5

Organisational level distribution of the sample

Organisational level	Frequency	Percentage of the sample
Valid: Top management	0	0%
Senior management	7	4%
Middle management	53	29%
Skilled/professional	94	51%
Semi-skilled/operational	15	8%
Basic skills	14	8%
Questions not answered:	1	
Total:	N = 183	100%

Table 6.5 and figure 6.5 indicate that of the 183 respondents, 0% were at top management level, 4% at senior management level, 29% at middle management level, 51% at skilled/professional level, 8% at semi-skilled/operational level and 8% at a basic skills level. The majority of the sample fell within the category “skilled/ professional and

middle management" (51%). This may be ascribed to the fact that only skilled employees are allowed to work on the plants. Only one participant did not indicate his or her organisational level, but this had no effect on the findings in this study. Figure 6.5 provides a graphic representation of the organisational level distribution of the sample.

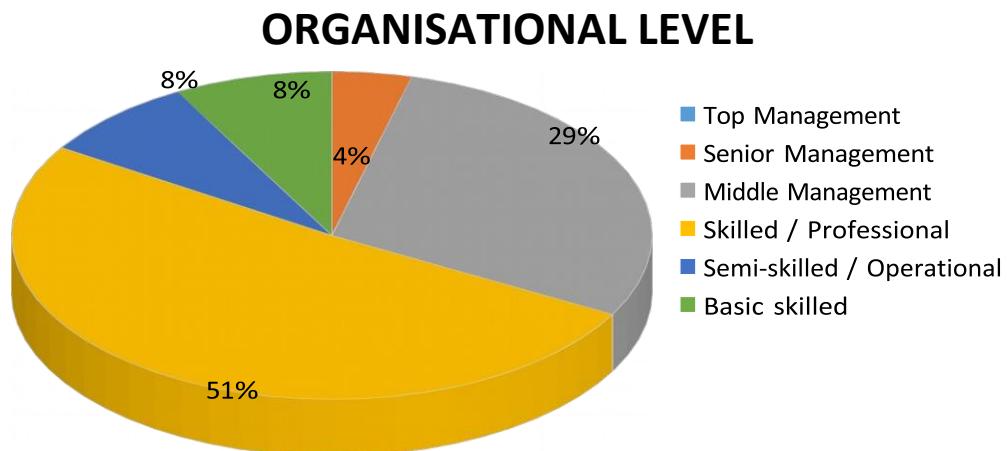


Figure 6.5. Organisational level distribution of the sample

6.3.1.6 Years of experience distribution of the sample

Table 6.6 illustrates the years of experience distribution of the sample.

Table 6.6

Years of experience distribution of the sample

Years of experience	Frequency	Percentage of the sample
Valid: 0 – 3 years	41	22%
4 – 10 years	61	33%
11 – 20 years	38	21%
21 years and more	44	24%
Total:	N = 184	100%

According to table 6.6 and figure 6.6, the sample was made up in such a way that 22% of the respondents had 0 to 3 years work experience, a third of the respondents (33%)

had a total of four to ten years of work experience, 21% had between 11 and 20 years of experience and 24% had 21 years and more of working experience. As indicated above, the majority of the respondents had been with the organisation for between four and ten years, they had undergraduate degrees/diplomas/certificates and were between the ages of 26 and 35. The sample by years of experience was mostly equally distributed. Figure 6.6 provides a graphic representation of the years of experience distribution of the sample.

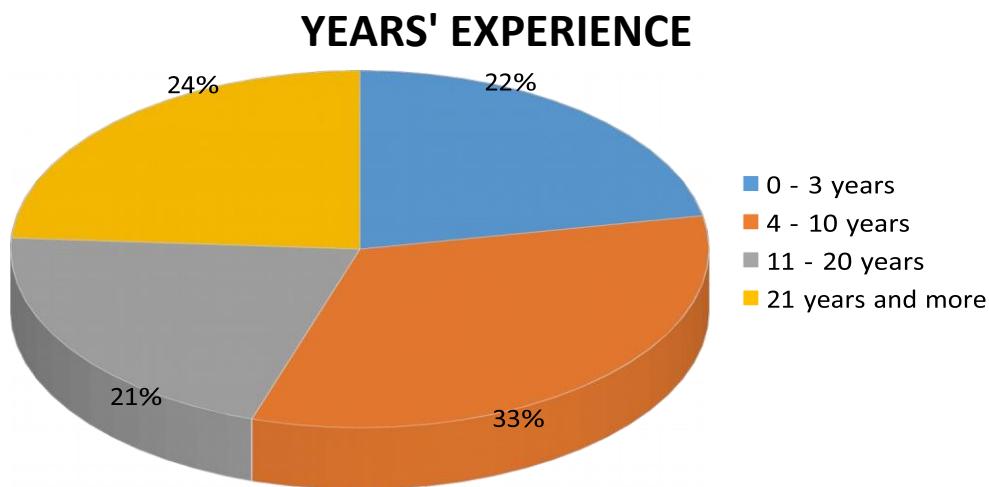


Figure 6.6. Years' experience distribution of the sample

6.3.2 Means and standard deviations

This section presents the mean and standard deviation for each one of the wellness constructs. The mean is also known as the average of a total set of numbers and is sometimes called the arithmetic mean. The mean scores for these constructs were calculated through adding all the numbers in a set and then dividing by the total count of numbers. The standard deviation is a measure that is used to quantify the amount of variation or distribution of a set of data values. A standard deviation close to 0 indicates that the data points tend to be very close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values (Bland & Altman, 1996).

6.3.2.1 SoC

Table 6.7 provides the means and standard deviations for SoC.

Table 6.7

SoC: Means scores and standard deviations (N = 182)

SENSE OF COHERENCE	Mean	Standard deviation
N = 182:		
SOC manageability	5.06	0.74
SOC meaningfulness	5.44	0.86
SoC Total:	<u>5.25</u>	<u>0.73</u>

The total average mean score for SoC was 5.25, with a total standard deviation of 0.73. The total number of reliable items under manageability and meaningfulness were used to determine an average score between these items. The comprehensibility component was omitted as it was found unreliable (Section 5.4.1.2). This was done by taking the average of the responses (ranging from 1 to 7) for the relevant items for each construct. A score between 1 and 7 were determined. A score closer to 1 means towards having a sense coherence, while a score towards 7 means always have a sense of coherence. A score towards 4 is neutral or in between.

On average, respondents score for SOC were 5.25 which is above 4 indicating a moderate SoC. An individual mean score above 5.25 was higher than the group average and a mean score below 5.25 was lower than the group average. These results are discussed in more detail later in this chapter.

6.3.2.2 LoC

Table 6.8 provides the means and standard deviations for LoC.

Table 6.8

LoC: Means scores and standard deviations (N = 184)

LOCUS OF CONTROL	Mean	Standard deviation
N = 184:		
LoC Total:	39.7	17.4

The total mean score for locus of control was 39.7%, with a standard deviation of 17.4%. The total number of the items was coded as 1s and 0s. It was then added up and divided by the number of items in order to get a percentage. In this way the total mean score was determined as a 39.7% for LoC.

On average, the respondents scored 39.7%. According to the LoC questionnaire used, a low score indicates an internal locus of control. An individual mean score above 39.7% is higher than the group average, and a mean score below 39.7% is lower than the group average. These results are discussed in more detail later in this chapter.

6.3.2.3 Coping

Table 6.9 indicates the means and standard deviations for coping.

Table 6.9

Coping: Means scores and standard deviations (N = 182)

COPE	Mean	Standard deviation
N = 182:		
LoC score	39.7	17.4
SoC Comprehension	4.19	0.83
SoC Manageability	5.06	0.74
SoC Meaningfulness	5.44	0.86
SoC Total	5.25	0.73
Cope AC	3.18	0.45
Cope Plan	3.34	0.60
Cope PRG	3.26	0.59
Cope accept	2.99	0.63
Cope TTR	3.38	0.79
Cope FVE	3.49	0.60
COPE Total:	2.88	0.34

The total average mean score for coping was calculated as 2.88, standard deviation of 0.34 was calculated. Each construct's relevant items were used to calculate the average for that construct. In this way, the total mean scores were determined for each different variable. This was done by taking the average of the responses (ranging from 1 to 4) for the relevant items for each construct. A score between 1 and 4 were determined. 1 = I usually don't do this at all 2 = I usually do this a little bit 3 = I usually do this a medium amount 4 = I usually do this a lot.

COPE total was calculated by taking the average of the COPE scores. Therefore a score of 2.88 is going towards 3 which means "I usually do this a medium amount".

On average, the respondents' mean scores were 2.88. An individual mean score above 2.88 is higher than the group average and a mean score below 2.88 is lower than the group average. These results are discussed in more detail later in this chapter.

6.3.3 Table of frequencies and percentages

6.3.3.1 Table of frequencies and percentages for SoC

As per the literature review in section 4.5 SoC is essentially a tendency towards an individual seeing life as being “under control” (Amirkhan & Greaves, 2003). Each person’s SoC requires certain inherent fundamentals for coping successfully, which are represented by the concepts of comprehensibility, manageability and meaningfulness.

In this study two components of SoC namely meaningfulness and manageability were measured. The comprehensibility component was omitted as it was found unreliable (Section 5.4.1.2)

(a) *Table of frequencies and percentages for SoC – Meaningfulness*

In the SoC survey, the participants were asked to mark a number which expresses their answer on a seven-point Likert-type scale, where the numbers 0 and 6 were the most extreme choices in their answers. The lowest scale number (0) indicates a low level of meaningfulness and the highest scale number (6) indicates a high level of meaningfulness.

Table 6.10 indicates the question table of frequencies and percentages for SoC – Meaningfulness scaling the answers from 1 to 7.

Table 6.10 indicates the table of frequencies and percentages for SoC – Meaningfulness

MEANINGFULNESS	1	2	3	4	5	6	7	Total:
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Meaningfulness:

S4 (Do you have the feeling that you N= 6 N=5 N=13 N=17 N=24 N=56 N=59 N=180 don't really care about what goes on 3.33% 2.78% 7.22% 9.44% 13.33% 31.11% 32.78% 100% around you?)

S7 (Life is fully of interest or N=7 N=1 N=16 N=34 N=39 N=40 N=44 N=181 completely routine?) 3.87% 0.55% 8.84% 18.78% 21.55% 22.10% 24.31% 100%

S8 (Until now your life has had: no N=1 N=3 N=7 N=28 N=56 N=47 N=39 N=181 clear goals or purpose or very clear 0.55% 1.66% 3.87% 15.47% 30.94% 25.97% 21.55% 100% goals and purpose?)

S11 (Most of the things you do in the N=1 N=2 N=7 N=45 N=43 N=53 N=28 N=179 future will probably be: completely 0.56% 1.12% 3.91% 25.14% 24.02% 29.61% 15.64% 100%)

	fascinating or deadly boring?)						
S14	(When you think about your life, you very often: feel how good it is to be alive or ask yourself why you exist at all)	N=1	N=2	N=9	N=17	N=27	N=59 N=65 N=180
S16	(Doing the things you do every day is: a source of deep pleasure and satisfaction or a source of pain and boredom?)	N=1	N=6	N=22	N=25	N=46	N=56 N=23 N=179
S22	(You anticipate that your personal life in the future will be: totally without meaning or purpose or full of meaning and purpose?)	N=0	N=3	N=3	N=17	N=41	N=47 N=70 N=181

Table 6.10 above indicates the frequencies and percentages of the respondents' meaningfulness. Item S28 (How often do you have the feeling that there's little meaning in the things you do in your daily life?) that originally formed part of the variable meaningfulness was found to have an unacceptable reliability and for that reason was omitted (Section 5.4.1.2). All other items were found to be reliable and therefore included. The majority of high scores among the respondents indicated a high to very high level of meaningfulness, clearly indicating a high level of SoC.

Items that were the highest on meaningfulness were considered by adding the values indicated in columns 5 and 6 for each item and using the highest scores.

From the above it is clear that the highest percentages were scored for item S14 (When you think about your life, you very often: feel how good it is to be alive or ask yourself why you exist at all) with 68.89% (columns 6 and 7 combined) as well item S22 (You anticipate that your personal life in the future will be: totally without meaning or purpose or full of meaning and purpose?) with a score of 64.64%.

Lower levels of meaningfulness were calculated by adding the values of column 1, 2 and 3 for each item separately, and using the highest scores. Low levels of meaningfulness among the respondents were recorded at S4 (Do you have the feeling that you don't really care about what goes on around you?) with a value of 13.33% as well as S16 (Doing the things you do every day is: a source of deep pleasure and satisfaction or a source of pain and boredom?) with a value of 16.76%.

(b) *Table of frequencies and percentages for SoC – Manageability*

In the SoC survey, the participants were asked to mark a number which expresses their answer on a seven-point Likert-type scale, where the numbers 0 and 6 were the most extreme choices in their answers. The lowest scale number (0) indicates a low level of manageability and the highest scale number (6) indicates a high level of manageability.

Table 6.11 indicates the question table of frequencies and percentages for SoC – Manageability scaling the answers from 1 to 7.								
MANAGEABILITY	1	2	3	4	5	6	7	Total:
Manageability:								
S2 (In the past, when you had to do something which depended upon cooperation with others, did you have the feeling that it: surely wouldn't get done or surely would get done?)								
N=3 N=11 N=20 N=30 N=43 N=40 N=33 N=180	1.67%	6.11%	11.11%	16.67%	23.89%	22.22%	18.33%	100%
S6 (Has it happened that people whom you counted on disappointed you?)								
N=10 N=22 N=62 N=35 N=33 N=17 N=1 N=180	5.56%	12.22%	34.44%	19.44%	18.33%	9.44%	0.56%	100%
S18 (Do you have very mixed-up feelings and ideas?)								
N=11 N=9 N=23 N=32 N=47 N=31 N=27 N=180	6.11%	5.00%	12.78%	17.78%	26.11%	17.22%	15.00%	100%
S13 (When you face a difficult problem, the choice of a solution is: confusing and hard to find or always completely clear?)								
N=1 N=2 N=9 N=18 N=30 N=52 N=69 N=181	0.55%	1.10%	4.97%	9.94%	16.57%	28.73%	38.12%	100% always
S20 (When you do something that gives you a good feeling: it's certain you'll go on feeling good or it's certain that something will happen to spot the feeling.)								
N=1 N=4 N=9 N=17 N=31 N=69 N=50 N=181	0.55%	2.21%	4.97%	9.39%	17.13%	38.12%	27.62%	100% that
S23 (Do you think that there will be people whom you'll be able to count on in the future?)								
N=5 N=10 N=10 N=11 N=17 N=53 N=75 N=181	2.76%	5.52%	5.52%	9.39%	29.28%	41.44%	100%	always
S25 (Many people – even those with a strong character – feel like sacks (losers) in certain situations. How often have you felt this way in the past?)								
N=8 N=9 N=26 N=48 N=41 N=45 N=6 N=183	4.37%	4.92%	14.21%	26.23%	22.40%	24.59%	3.28%	sometimes
S27 (When you think of difficulties you are likely to face in important aspects of your life, do you have the feeling that: you will always succeed in overcoming the difficulties or you won't succeed in overcoming the difficulties?)								
N=0 N=1 N=4 N=24 N=38 N=69 N=47 N=183	0.00%	0.55%	2.19%	13.11%	20.77%	37.70%	25.68%	100% aspects of your

Table 6.11 above indicates the frequencies and percentages of the respondents' manageability. Item S9 (Do you have the feeling that you're being treated unfairly?) and item S29 (How often do you have feelings that you're not sure you can keep under control?), which originally formed part of manageability, were found to have an unacceptable reliability and were thus omitted (Section 5.4.1.2). All other items were found reliable and were therefore included.

The majority of high scores among the respondents indicated a high to very high level of manageability, clearly indicating a high level of SoC.

Items that were the highest on manageability were considered by adding the values indicated in columns 6 and 7 for each item and using the highest scores.

From the above it is clear that the highest percentages were scored for item S23 (Do you think that there will always be people whom you'll be able to count on in the future?) with 70.72% (columns 6 and 7 combined), S13 (When you face a difficult problem, the choice of a solution is: always confusing and hard to find or always completely clear?) with a score of 66.85%, and S20 (When you do something that gives you a good feeling: it's certain that you'll go on feeling good or it's certain that something will happen to spot the feeling) with a score of 65.74 %.

Lower levels of manageability were calculated by adding the values of column 0, 1 and 2 for each item, and using the highest scores. Low levels of manageability among the respondents were recorded at S6 (Has it happened that people whom you counted on disappointed you?) with a value of 52.22% as well as S18 (Do you have very mixed-up feelings and ideas?) with a value of 23.89%.

(c) *Over all score of SoC of respondents in this studying*

The results obtained from this study indicates that the participants within this petrochemical organisation has a high score of SoC meaning that such a person with a strong SoC can select a particular coping strategy that seems most appropriate to deal with the stressors being confronted. Subsequently, the availability of a wide range of coping strategies, and flexibility in choice at any given time, are crucial (Van der Colff &

Rothmann, 2009). The stronger a person's SoC, the better his or her ability will be to employ cognitive, affective and instrumental strategies that are likely to improve coping and, subsequently, well-being (Section 4.7).

6.3.3.2 Table of frequencies and percentages for LoC

As per literature review section 4.14 Individuals with an external LoC believes that his/her behaviour is guided by fate, luck, or other external circumstances were as Individuals with an internal LoC believes that his/her behaviour is guided by his/her personal decisions and efforts.

In the LoC survey, the respondents were requested to select the statement they agreed with the most. A percentage closer to 0 indicated an external LoC, whereas a percentage closer to 100 indicated an internal LoC.

Table 6.12 indicates the question table of frequencies and percentages for LoC, and participants were asked to select the statement they agreed with the most.

Table 6.12

Table of frequencies and percentages for LoC

LOCUS OF CONTROL	0	1	Total:
L2 (Many of the unhappy things in people's lives are partly due to bad luck OR N=165 N=18 N=183 people's misfortunes result from the mistakes they make.) 90.16% 9.84% 100%			
L3 (One of the major reasons why we have wars is because people don't take enough interest in politics OR there will always be wars, no matter how hard people try to prevent them.) 11.80% 88.20% 100%			
L4 (In the long run people get the respect they deserve in this world OR unfortunately, an individual's worth often passes unrecognised no matter how hard he or she tries.) 48.07% 51.93% 100%			
L5 (The idea that teachers are unfair to students is nonsense OR most students don't realise the extent to which their grades are influenced by accidental happenings.)	N=88 48.35%	N=94 51.65%	N=182 100%
L6 (Without the right breaks one cannot be an effective leader OR capable people who fail to become leaders have not taken advantage of their opportunities.)	N=146	N=35	N=181
L7 (No matter how hard you try some people just don't like you OR people who can't get others to like them don't understand how to get along with others.)	N=64	N=115	N=179
L9 (I have often found that what is going to happen will happen OR trusting to fate has never turned out as well for me as making a decision to take a definite course of action.)	N=103 57.87%	N=75 42.13%	N=178 100%
L10 (In the case of the well-prepared student, there is rarely if ever such a thing as an unfair test OR many times exam questions tend to be so unrelated to course work that			

studying in really useless.)	N=153 84.53%	N=28 15.47%	N=181 100%
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L11 (Becoming a success is a matter of hard work, luck has little or nothing to do with it OR getting a good job depends mainly on being in the right place at the right time.)

N=139 N=40 N=179

L12 (The average citizen can have an influence in government decisions OR this 77.65% 22.35% 100% world is run by the few people in power, and there is not much the little guy can do about it.)

N=76 N=102 N=178

L13 (When I make plans, I am almost certain that I can make them work OR it is not 42.70% 57.30% 100% always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.)

N=152 N=27 N=179

L15 (In my case, getting what I want has little or nothing to do with luck OR many 84.92% 15.08% 100% times we might just as well decide what to do by flipping a coin.)

LOCUS OF CONTROL	N=154 0	N=26 1	N=180 Total:
L16 (Who gets to be the boss often depends on who was lucky enough to be in the N=155 N=26 N=181 right place first OR getting people to do the right thing depends upon ability. Luck has 85.64% 14.36% 100% little or nothing to do with it.)	85.56%	14.44%	100%
L17 (As far as world affairs are concerned, most of us are the victims of forces we can N=78 N=102 N=180 neither understand, nor control OR by taking an active part in political and social 43.33% 56.67% 100% affairs the people can control world events.)	43.33%	56.67%	100%
L18 (Most people don't realise the extent to which their lives are controlled by N=91 N=89 N=180 accidental happenings OR here really is no such thing as "luck".) 50.56% 49.44% 100%	50.56%	49.44%	100%
L20 (It is hard to know whether or not a person really likes you OR how many friends N=78 N=103 N=181 you have depends upon how nice a person you are.)	43.09%	56.91%	100%
L21 (In the long run the bad things that happen to us are balanced by the good ones N=82 N=99 N=181 OR most misfortunes are the result of lack of ability, ignorance, laziness or all three.)	45.30%	54.70%	100%
L22 (With enough effort we can wipe out political corruption OR it is difficult for people to have much control over the things politicians do in office.)	N=77 42.54%	N=104 57.46%	N=181 100%
L23 (Sometimes I can't understand how teachers arrive at the grades they give OR there is a direct connection between how hard I study and the grades I get.)	N=170 94.97%	N=9 5.03%	N=179 100%
L25 (Many times I feel that I have little influence over the things that happen to me OR it is impossible for me to believe that chance or luck plays an important role in my N=96 N=81 N=177 life.)	54.24%	45.76%	100%
L26 (People are lonely because they don't try to be friendly OR there's not much use in trying too hard to please people, if they like you, they like you.)	N=77 42.54%	N=104 57.46%	N=181 100%
L28 (What happens to me is my own doing OR sometimes I feel that I don't have enough control over the direction my life is taking.)	N=117 64.64%	N=64 35.36%	N=181 100%
L29 (Most of the time I can't understand why politicians behave the way they do OR in the long run the people are responsible for bad government on a national as well as N=111 N=70 N=181 on a local level.) 61.33% 38.67% 100%	61.33%	38.67%	100%

Table 6.12 depicts the frequencies and percentages of the respondents' locus of control. Items L1, L8, L14, L19 (Section 5.4.2.2), L24 and L27 that originally formed part of LoC

were found to have an unacceptable reliability –hence the omission of these items. All other items were found to be reliable and were therefore included.

While keeping in mind that the mean score for LoC was calculated as 39.7%, it is clear from the above that the majority of respondents had an internal LoC. Individuals who believe that they have strong control over what they accomplish, because of their personal behaviour and competencies, are described as having an internal LoC (De Mooij, 2010). The highest percentage for LoC with a score of 94.97% was for L23 (Sometimes I can't understand how teachers arrive at the grades they give OR there is a direct connection between how hard I study and the grades I get). In this question, the majority of respondents indicated that they do believe there is a direct connection between how hard one studies and the grades one gets, which is an obvious indication of internal LoC. Regarding item L2 (Many of the unhappy things in people's lives are partly due to bad luck OR people's misfortunes result from the mistakes they make), 90.16% of the respondents felt that people's misfortunes result from the mistakes they make. In conjunction with this a low score at L3 (One of the major reasons why we have wars is because people don't take enough interest in politics OR there will always be wars, no matter how hard people try to prevent them) of only 11.80%, indicating that most of the respondents believed wars are inevitable.

The results in this study indicated that the participants within this petrochemical organisation had an internal LoC which means that such an individual believes that his/her behaviour is guided by his/her personal decisions and efforts (Section 4.14).

6.3.3.3 Table of frequencies and percentages for COPE

Table 6.13 indicates the frequencies and percentages for COPE. Participants were asked to indicate how much their reaction was described by each statement in a fourpoint Likert scale, where the numbers 1 and 4 were extreme choices. The lowest scale option (1) indicated low levels of coping and the highest scale option (4) high levels of coping. A percentage closer to 0 indicated low coping or that the respondents did not agree at all, whereas a percentage closer to 100 indicated high levels of coping or that the respondents totally agree.

Table 6.13

Table of frequencies and percentages for COPE

COPE	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot	Total:
AC:					
C6 (I take additional action to try and get rid of the problem.)	N=9 4.92%	N=27 14.75%	N=69 37.70%	N=78 42.62%	N=183 100%
C23 (I turn to work or other substitute activities to take my mind off things.)	N=1 0.55%	N=13 7.10%	N=78 42.62%	N=91 49.73%	N=183 100%
C32 (I take direct action to get around the problem.)	N=9 4.92%	N=42 22.95%	N=70 38.25%	N=62 33.88%	N=183 100%
C45 (I concentrate on my efforts on doing something about it.)	N=4 2.20%	N=35 19.23%	N=80 43.96%	N=63 34.62%	N=182 100%
Planning:					
C9 (I think about how I might best handle the problem.)	N=5 2.72%	N=17 9.24%	N=51 27.72%	N=111 60.33%	N=184 100%
C20 (I make a plan of action.)					
C35 (I take direct action to get around the problem.)	N=4 2.19%	N=29 15.85%	N=54 29.51%	N=96 52.46%	N=183 100%
C47 (I think hard about what steps to take.)	N=7 3.89%	N=26 14.44%	N=57 31.67%	N=90 50.00%	N=180 100%
SSSIR:					
C1 (I ask people who have had similar experiences what they did.)	N=5 2.78%	N=22 12.22%	N=71 39.44%	N=82 45.56%	N=180 100%
C22 (I try to get advice from someone about what to do.)	N=42 22.95%	N=72 39.34%	N=41 22.40%	N=28 15.30%	N=183 100%
C34 (I talk to someone who can do something concrete about the problem.)	N=18 9.84%	N=40 21.86%	N=71 38.80%	N=54 29.51%	N=183 100%
C41 (I talk to someone to find out more about the situation.)	N=11 6.04%	N=44 24.18%	N=71 39.01	N=56 30.77%	N=182 100%
	N=11 6.04%	N=49 26.92%	N=64 35.16%	N=58 31.87%	N=182 100%

COPE	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot	Total:
SSSER:					
C8 (I talk to someone about how I feel.)	N=24 13.11%	N=46 25.14%	N=57 31.15%	N=56 30.60%	N=183 100%
C15 (I try to get emotional support from friends and relatives.)	N=32 17.58%	N=61 33.52%	N=50 27.47%	N=39 21.43%	N=182 100%
C28 (I get sympathy and understanding from someone.)	N=48 26.23%	N=84 45.90%	N=32 17.49%	N=19 10.38%	N=183 100%
C49 (I discuss my feelings with someone.)	N=20 11.05%	N=53 29.28%	N=63 34.81%	N=45 24.86%	N=181 100%
PRG:					
C3 (I try to grow as a person as a result of the experience.)	N=2 1.09%	N=12 6.56%	N=57 31.15%	N=112 61.20%	N=183 100%
C17 (I try to see it in a different light to make it more positive.)	N=13 7.14%	N=37 20.33%	N=73 40.11%	N=59 32.42%	N=182 100%
C30 (I look for something good in what is happening.)	N=10 5.46%	N=40 21.86%	N=68 37.16%	N=65 35.52%	N=183 100%
C43 (I learn something from the experience.)	N=2 1.10%	N=14 7.73%	N=57 31.49%	N=108 59.67%	N=181 100%
Acceptance:					
C7 (I get used to the idea that it happened.)	N=14 7.61%	N=52 28.26%	N=66 35.87%	N=52 28.26%	N=184 100%
C33 (I accept that this has happened, and that it can't be changed.)	N=9 4.97%	N=51 28.18%	N=61 33.70%	N=60 33.15%	N=181 100%
C48 (I accept the reality of the fact that it has happened.)	N=14 7.65%	N=59 32.24%	N=60 32.79%	N=50 27.32%	N=183 100%
	N=4 2.20%	N=19 10.44%	N=58 31.87%	N=101 55.49%	N=182 100%

COPE	I usually don't do this at all	I usually do this a little bit	I usually do this medium amount	I usually do this a lot	Total:
TTR:					
C10 (I put my trust in God.)	N=7 3.83%	N=12 6.56%	N=22 12.02%	N=142 77.60%	N=183 100%
C24 (I pray more than usual.)	N=13 7.18%	N=33 18.23%	N=49 27.07%	N=86 47.51%	N=181 100%
C37 (I try to find comfort in my religion.)	N=16 8.74%	N=23 12.57%	N=48 26.23%	N=96 52.46%	N=183 100%
C51 (I seek God's help.)	N=10 5.49%	N=18 9.89%	N=31 17.03	N=123 67.58	N=182 100%
FVE:					
C14 (I let my feelings out.)	N=27 14.75%	N=76 41.53%	N=48 26.23%	N=32 17.49%	N=183 100%
C27 (I learn to live with it.)	N=50 27.17%	N=81 44.02%	N=35 19.02%	N=18 9.78%	N=184 100%
C40 (I feel a lot of emotional distress and I find myself expressing those feelings a lot.)	N=55 30.05%	N=76 41.53%	N=38 20.77%	N=14 7.65%	N=182 100%
C53 (I get upset, and I am really aware of it.)	N=28 15.38%	N=79 43.41%	N=49 26.92%	N=26 14.29%	N=182 100%
Denial:					
C2 (I refuse to believe it has happened.)	N=118 64.13%	N=43 23.37%	N=16 8.70%	N=7 3.80%	N=184 100%
C16 (I say to myself: "this isn't real".)	N=116 63.39%	N=52 28.42%	N=10 5.46%	N=5 2.73%	N=183 100%
C29 (I pretend that it hasn't really happened.)	N=118 65.19%	N=42 23.20%	N=15 8.29%	N=6 3.31%	N=181 100%
C42 (I act as though it hasn't ever happened.)	N=115 63.89%	N=42 23.33%	N=19 10.56%	N=4 2.22%	N=180 100%
BD:					
C13 (I admit to myself that I can't deal with it, and quit.)	N= 141 77.05%	N=26 14.21%	N=12 6.56%	N=4 2.19%	N=183 100%
C26 (I give up the attempt to get what I want.)	N=92 50.00%	N=65 35.33%	N=17 9.24%	N=10 5.43%	N=184 100%
C39 (I reduce the amount of effort I am putting into solving the problem.)	N=80 44.20%	N=68 37.57%	N=20 11.05%	N=13 7.18%	N=181 100%
C50 (I just give up trying to reach my goal.)	N=120 65.93%	N=48 26.37%	N=11 6.04%	N=3 1.65%	N=182 100%

Table 6.13 above indicates the frequencies and percentages of the respondents' coping results. Four variables of coping, namely suppressing competitive activities (items 5, 19, 38, 49), restraint coping (items 4, 18, 31, 44), mental disengagement (items 11, 25, 36, 52) and alcohol-drug disengagement (items 12) that originally formed part of COPE were found to have an unacceptable reliability and were therefore omitted. All the other items were found to be reliable and therefore included.

In this research, the item for denial was asked negatively after which it was restated as a positive. From the above it is clear that the majority of respondents had a high level of coping. The highest variable of coping was in the area of denial with a score of 64.15%, indicating that 64% of respondents were not victims of denial. As explained earlier, when this item is asked negatively (i.e. a higher score indicates no or low levels of denial), it means respondents can in fact cope effectively. Turning to religion (TTR) scored a total of 61.29%, whereas planning scored a total of 52.09%.

6.3.4 Interpretation of means and standard deviations

According to Bland and Altman (1996), the standard deviation (SD or std) (represented by the Greek letter sigma, σ) is a measure used to quantify the amount of variation or dispersion of a set of data values.

A standard deviation that scores close to 0 indicates that the data points have a tendency to be very close to the mean of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values. In probability and statistics, mean and expected value are used synonymously to refer to one measure of the central tendency, either of a probability distribution or of the random variable characterised by that distribution. The mean is the average of the numbers – in other words, a calculated "central" value of a set of numbers.

To calculate a mean, one simply adds all the numbers, and then divides by how many numbers there are (Feller, 1950).

6.4 CORRELATIONAL RESULTS

In this study, three variables, namely LoC, SoC and coping were analysed, and the Pearson correlation coefficient was used to investigate the strength and direction of the relationship between the variables.

6.4.1 Interpretation of relationship between the constructs

According to a study by Wiid and Diggenes (2013), the correlation coefficient (r) signifies the strength of the relationship between two constructs (or variables). This r value can range from -1 to 1:

$r = 1$: a perfect positive correlation

$r = 0$: no correlation

$r = -1$: a perfect negative correlation

A positive correlation indicates that as the values for one variable increase, those for the second variable also increase. A negative correlation indicates that as the values for one variable increase, those for the second variable decrease. The second characteristic of a correlation coefficient is its size. Larger absolute values of a correlation coefficient indicate a stronger relationship between the two variables being tested (Wiid & Diggenes, 2013).

The following is an estimated guide (just a guideline) for interpreting the strength of the direct relationship between two variables, based on the absolute value of the coefficient (Wiid & Diggenes, 2013):

± 1.00 = perfect correlation

± 0.80 = strong correlation

± 0.50 = moderate correlation

± 0.20 = weak correlation

± 0 = no correlation

Table 6.14 indicates the Pearson correlation coefficient obtained for LoC, SoC and coping.

Table 6.14

Pearson correlation coefficient obtained for LoC, SoC and coping

	LOC score	SOC total	Total COPE
LOC score	1.0000	-0.4153	-0.1331
SOC total	-0.4153	1.0000	0.1554
Total COPE	-0.1331	0.1554	1.0000

Table 6.15 indicates the Pearson correlation probabilities obtained for LoC, SoC and coping.

Table 6.15

Pearson correlation probabilities obtained for LoC, SoC and coping

	LOC score	SOC total	Total COPE
LOC score	<.0001	<.0001	0.0733
SOC total	<.0001	<.0001	0.0362
Total COPE	0.0733	0.0362	<.0001

6.4.1.1 The relationship between LoC and SoC

A highly significant negative relationship of medium strength was evident between the LoC and SoC variables ($r = -0.4153$, $N = 182$, $P < 0.0001$), suggesting that the higher a respondent scored on internal LoC, the lower he or she scored on SoC. An internal locus of control concerns the belief that outcomes are dependent upon the effort put in to them whereas an external locus of control concerns the belief that his/her behaviour is guided by fate, luck, or other external circumstances. In this study, internal locus of control is not associated with sense of coherence, the tendency towards an individual seeing life as “under control”. The findings in this study differ with the findings of Feldman (2011) in that she found that a significant positive relationship was evident between SoC and LoC (Section 7.2.2.2). The reason behind this could be due to the fact that these studies were done in different organisations as well as some differences in biographical details. For

example in the study of Feldman (2011) the majority of her respondents (55%) only had a grade 10 -12 qualification were in this study the majority of respondents (51%) was qualified with a degree / diploma or certificate. Also in the study of Feldman (2011) the majority of respondents was under the age of 24 were in this study the majority was between 26 and 35 years of age.

No further studies regarding the relationship of SoC and LoC could be found, which makes this study unique.

6.4.1.2 The relationship between COPE and SoC

A significant positive relationship of weak or no strength was evident between the COPE and SoC variable ($r = 0.1554$, $N = 182$, $p=0.0362$), suggesting that the higher a respondent scored on COPE, the higher he or she scored on SoC. The characteristics of a person with a high SoC – the tendency towards an individual seeing life as ‘under control’ thus seem to be associated with COPE – individual’s cognitive and behavioural efforts and responses to reduce, minimise, master or tolerate both internal and external demands that the environment presents. The findings in this study confirm Antonovsky’s (1987) view that a person with a strong SoC can select a certain coping strategy that is appropriate to deal with the stressors being confronted.

Even though the study of Antonovsky’s (1987) is old, no more resent research could be found on the relationship between COPE and SoC, therefore making this study specific.

6.4.1.3 The relationship between COPE and LoC

A non significant negative relationship of weak or no strength was evident between the internal LoC and COPE variable ($r = -0.1331$, $N = 182$, $p = 0.0733$). This means that internal LoC concerns the belief that outcomes are dependent upon the effort put in to them is not associated with COPE or individual’s cognitive and behavioural efforts and responses to reduce, minimise, master or tolerate both internal and external demands that the environment presents.

No further study's on the relationship between COPE and LoC could be found, thus making this study unparalleled.

6.4.2 Integration of correlations

In this study it was found that internal LoC was not associated with SoC within this petrochemical organisation which means that an internal LoC that concerns the belief that outcomes are dependent upon the effort put in to them is not associated with SoC or the tendency towards an individual seeing life as 'under control' thus seem to be associated with COPE – individual's cognitive and behavioural efforts and responses to reduce, minimise, master or tolerate both internal and external demands that the environment presents.

6.5 INFERENTIAL RESULTS

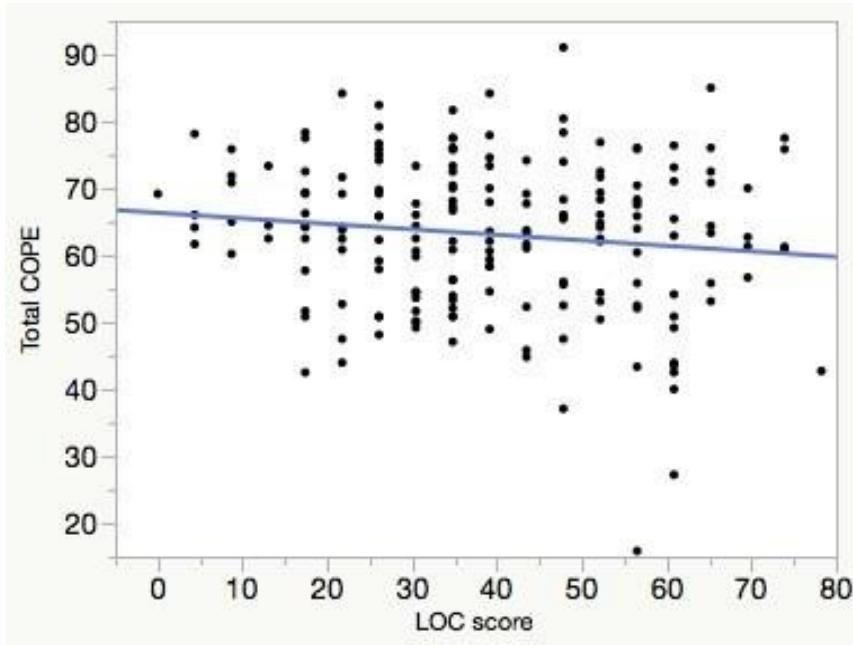
Regression analysis was performed in order to investigate the relationship between the independent variables (LoC and SoC) and the dependent variable (coping). This analysis related to hypothesis 1. The level of statistical significance, according to Tredoux and Durrheim (2002), was calculated as 95%

6.5.1 Assessing the relationship between coping and LoC using linear regression

Linear regression was used to determine the extent to which there was a linear relationship between coping (dependent variable) and LoC (independent variable).

Output:

Figure 6.7: Linear fit of LoC and Coping



The graph above shows the linear fit between LoC and coping. There seems to be a slight negative relationship, meaning the higher scores for coping were associated with lower scores for LoC.

Table 6.16 below provides a summary of results of the linear regression analysis conducted between LoC and coping.

Table 6.16

Assessing the relationship between coping and LoC using linear regression

Linear Fit

$$\text{Total COPE} = 2.9843108 - 0.0026364 * \text{LOC score}$$

Summary of Fit

Rsquare	0.017714
RSquare Adj	0.012257
Root Mean Square Error	0.342339
Mean of Response	2.879762
Observations (or Sum Wgts)	182

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.380421	0.380421	3.2460
Error	180	21.095313	0.117196	Prob > F
C. Total	181	21.475734		0.0733

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	2.9843108	0.063335	47.12	<.0001*
LOC score	-0.002636	0.001463	-1.80	0.0733

The p -value from the F-test was just larger than 0.05 ($F_{1,182} \approx 2.945$; $p=0.0733$) indicating no significant linear relationship between coping (dependent variable) and LoC (independent variable) at a 95% level of confidence.

Measures of model fit:

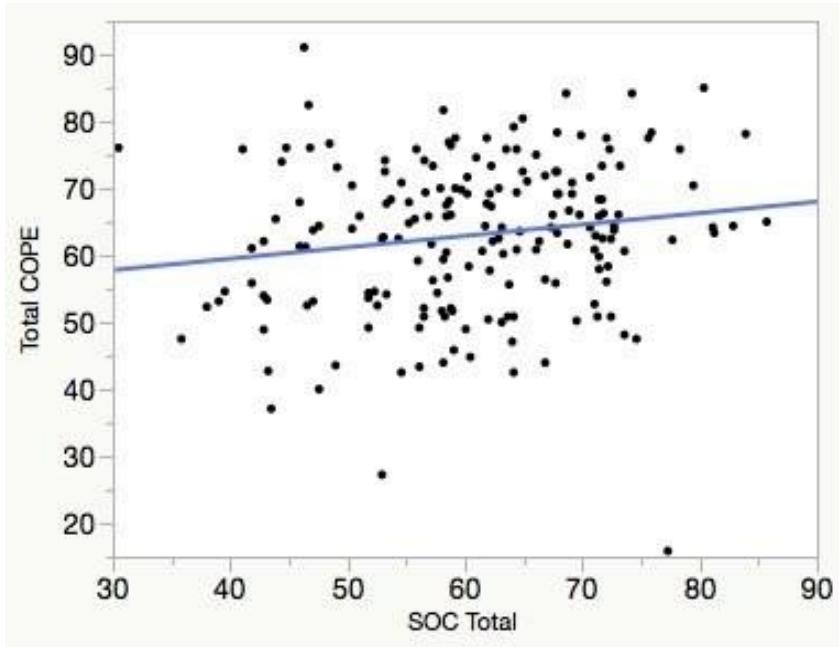
The coefficient of determination (R^2): This value indicates how well the regression model fitted the data. In this case the R^2 value is 0.0177. This indicated that 1.77% of variation in Coping is explained by LoC. A very weak fit.

6.5.2 Assessing the relationship between coping and SoC using linear regression

Linear regression was used to determine the extent to which there was a linear relationship between coping (dependent variable) and SoC (independent variable).

Output:

Figure 6.8: Linear fit of SoC and Coping



The graph above shows the linear fit of SoC influencing coping. There seems to be a slight positive relationship, meaning higher scores of coping were associated with higher scores of SoC.

Table 6.17 below provides a summary of results of the linear regression analysis conducted between SoC and coping.

Table 6.17

Assessing the relationship between *coping* and *SoC* using *linear regression*

Linear Fit

$$\text{Total COPE} = 2.4952118 + 0.0732641 * \text{SOC Total}$$

Summary of Fit

RSquare	0.024142
RSquare Adj	0.018721
Root Mean Square Error	0.341217
Mean of Response	2.879762
Observations (or Sum Wgts)	182

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.518467	0.518467	4.4531
Error	180	20.957268	0.116429	Prob > F
C. Total	181	21.475734		0.0362*

Parameter Estimates

Term Estimate Std Error t Ratio Prob> t	Intercept	2.4952118	0.183978	13.56 <.0001*
SOC Total	0.0732641	0.034719	2.11	0.0362*

The *p*-value from the F-test was lower than 0.05 ($F_{1,183} \approx 4.7288$; $p = 0.0362$) indicating a significant linear relationship between coping (dependent variable) and SoC (independent variable) at a 95% level of confidence.

Measures of model fit:

Linear regression was conducted to examine the relationship between coping and SoC. The value of the coefficient of determination (R^2) indicates how well the regression model fitted the data. In this instance, the R^2 value was 0.02414. This indicated that only 2.4% of variation in coping was explained by SoC, which indicates a significant but very weak fit.

6.5.3 Interpretation of regression analysis

In this study it was found that the participants in the petroleum industry indicated a slight negative relationship between LoC and coping meaning the higher scores for coping were associated with lower scores for LoC. It was also found in this study that there was a slight positive relationship between SoC and coping indicating that higher scores of coping were associated with higher scores of SoC.

6.6 HYPOTHESES

In the literature chapters, the central hypothesis was formulated, namely to determine whether a relationship exists between LoC, SoC and coping.

Table 6.19

Summary of the central hypothesis

Central	Description	Supportive hypothesis	evidence
H01	There is no statistically significant relationship between the variables coping and SoC	No	between the variables
Ha1	There is a statistically significant relationship between the variables coping and SoC	Yes	between the variables
H02	There is no statistically significant relationship between the variables coping and LoC	Yes	between the variables
Ha2	There is a statistically significant relationship between the variables coping and LoC	No	between the variables
H03	There is no statistically significant relationship between the variables SoC and LoC	No	between the variables
Ha3	There is a statistically significant relationship between the variables SoC and LoC	Yes	between the variables

6.7 SUMMARY

The research results and findings were discussed in this chapter. The results obtained by means of descriptive statistics were presented, after which the correlational statistics were explained. This was followed by a presentation of the results determined by means of inferential statistics.

The relationships between the variables were determined as follows; the relationship between SoC and LoC was found as negative, statistically significant and of medium strength (correlation coefficient=-0.4153). The relationship between COPE and LoC is negative, not statistically significant and of weak strength (correlation coefficient=0.1331). Lastly the relationship between SoC and COPE is positive, statistically significant and of weak strength (correlation coefficient=0.1554).

The findings in terms of the hypotheses were then presented.

The following research aim was achieved: The main objective of this study was to determine the status of the three constructs namely coping, LoC and SoC within the

petrochemical company further more specifically to determine the relationship between the three constructs.

In the final chapter, the conclusions, integration of the literature review and empirical study, limitations and recommendations are presented.

CHAPTER 7

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

The aim of this study was to determine whether there was a statistically significant relationship between the three constructs: SoC, LoC and coping among employees in a petrochemical organisation. In this chapter, the results presented in chapter 6 are interpreted, and the findings of the study discussed in the context of the literature review and empirical study. The limitations of the study are discussed and recommendations made for the organisation and for future research.

7.2 CONCLUSIONS

In this section, the conclusions of the literature review and empirical study are discussed.

7.2.1 Conclusions relating to the literature review

The specific research questions relating to the literature review were as follows (see chapter 1, section 1.4.1):

Research question 1: How does the literature conceptualise employee wellness in the 21st-century world of work.

Research question 2: How does the literature conceptualise locus of control and sense of coherence in the workplace.

Research question 3: How does the literature conceptualise coping in the workplace.

Literature reviews were conducted on SoC (chapter 4), LoC (chapter 4) and coping (chapter 3). These analyses enabled the researcher to not only frame the hypotheses, but also to compare previous findings with the findings of the present research study.

Regarding question 1 of the literature review, chapter 2 focused on employee wellness in the 21st-century world of work. In the context of the study, employee wellness was explored in terms of how the employee's SoC, LoC and coping, contribute to his or her sense of well-being. According to Arloski (2007), wellness is the ongoing process that moves one along a continuum of experiencing greater and greater states of feeling better as well as becoming more self-aware. Keeping in mind that wellness is each individual's choice, for the purposes of this study, wellness was described as a person's state of well-being that helps him or her to enhance his or her quality of life.

Workplace wellness relates to employer-originated health-promoting care that addresses employees' body, mind, emotions, spirit, community and work, through promoting healthful lifestyle choices and providing programmes, initiatives and incentives that encourage employees to keep well in all of these areas (Bradly, 2007). Workplace wellness has been expanded over the past decade to incorporate the overall creation of a "culture of health" in the worksite (De Vries & Thomas, 2010).

Regarding question 2 of the literature review, coping was addressed in chapter 3. For the purposes of this research, the definition of coping by Carver and Scheier (1999) was used. According to them, coping can be seen as the direct response that follows a stressful experience. Nowadays, the corporate workplace, and more specifically this petrochemical organisation, is fraught with anxiety, stress, deadlines, pressure, success and failure. The top individual and organisational performers need to be able to cope with the rapidly changing environment in order to succeed and achieve excellent results (Hicks & Caroline, 2007). According to Bowen et al. (2014), workplace stress leads to psychological, physiological and sociological strain effects. Sufferers adopt different coping mechanisms in attempts to mitigate their condition. Most respondents experience high levels of stress at work.

Emotionally mature individuals may have the ability to judge situations to be less stressful, have the ability to utilise resources more effectively and thus may have better outcomes from their coping strategies (Aldwin, 2007). Successful coping strategies can improve not only work performance and productivity, but also health and well-being, in one's working environment and in daily living.

With regard to question 3 of the literature review, chapter 4 focused on two different wellness constructs namely SoC and LoC. In this study, SoC was defined as an individual's tendency towards seeing life as being "under control" (Amirkhan & Greaves, 2003). As a global life orientation, SoC expresses the extent to which one has a pervasive, enduring and dynamic feeling of coherence – that is, one's world is ordered, structured and consistent (comprehensible); situations in life are endurable, manageable or a new challenge; one's life is meaningful and makes sense at an emotional and cognitive level; and life's demands are worthy of commitment (Rothmann et al., 2003; Sairenchi., et al, 2011).

Each person's SoC requires certain inherent fundamentals for coping successfully, which are represented by the concepts of comprehensibility, manageability and meaningfulness (Antonovsky, 1987). According to Antonovsky (1987), a person with a strong SoC can select a particular coping strategy that seems most appropriate to deal with the stressors being confronted. Antonovsky (1987) also noted that individuals with a high SoC are assumed to occupy a more favourable position on the health ease– disease band than those who score low in terms of their SoC (Hakanen et al., 2005). According to Rothmann (2001), individuals with a high SoC score also experience high job satisfaction. Individuals who manifest a high SoC assume responsibility for both themselves and for their performance at work. They are not afraid to make decisions for themselves in the work situation (Antonovsky, 1987).

For the purposes of this study, the researcher concurred with Rotter's (1966) definition of LoC, which is the extent to which individuals believe they can control events affecting them. People who believe that fate, luck or others control reinforcements, are termed externals and have an external LoC. Generally, externals do not have much confidence in their ability to influence their environment, and do not see themselves as being responsible for their lives. Hence these individuals are generally less likely to trust their

own abilities or to push themselves through difficult situations (Piatek & Pinger, 2010). Individuals who believe that they have strong control over what they accomplish, because of their personal behaviour and competencies, are referred to as internals and have an internal LoC (De Mooij, 2010).

People who perform better in most employment conditions, usually possess a strong internal rather than external LoC (Singh, 2006). They tend to be more successful in their careers and earn a higher income than their external equivalents. Furthermore, they experience greater job satisfaction, are more committed to and involved in their work, which results in greater performance standards. Additionally, an external LoC is related to emotional and physical symptoms, occupational stress and absenteeism, which will eventually result in an intention to leave the organisation, leading to a high turnover rate for the organisation (Smith, 2003).

7.2.2 Conclusions relating to the empirical study

The general aim of this research was to investigate the relationship between SoC, LoC and coping of employees in a petrochemical organisation in South Africa.

This research endeavoured to answer the following empirical questions (see chapter 1, section 1.4.2):

- **Research question 1:** What is the relationship between the wellness constructs: Coping and locus of control in the petrochemical industry in South Africa?
- **Research question 2:** What is the relationship between the wellness constructs: Coping and sense of coherence in the petrochemical industry in South Africa?
- **Research question 3:** What is the relationship between the wellness constructs: locus of control and sense of coherence in the petrochemical industry in South Africa?

The applied value of the results of this study relates to the way the findings could influence the manner in which the organisation selects, manages and specifically develops its

employees. Perhaps more significantly, the findings could help the organisation to develop appropriate wellness programmes in order to highlight the importance of the constructs discussed in this research, and apply this knowledge in practice.

7.2.2.1 Conclusions based on the descriptive statistics

In terms of the gender distribution of the sample ($n = 184$), 120 of the respondents were female and 64 male. The majority of employees in the organisation seemed to be fairly young (between 26 and 35 years) and were grouped into the occupational category “middle management”. A large proportion of the staff (79%) came from a white cultural background with 21 years or more working experience. More than half of the employees had an undergraduate degree, diploma or Grade 12 qualification, while only 10% had a postgraduate qualification.

7.2.2.2 Conclusions based on the correlational results

Regarding the empirical question, the correlational results indicated a;

- highly significant negative relationship of medium strength was evident between the LoC and SoC variables ($r = -0.4153$, $N = 182$, $P < 0.0001$), suggesting that the higher a respondent scored on internal LoC, the lower he or she scored on SoC.
- A significant positive relationship of weak or no strength was evident between the COPE and SoC variable ($r = 0.1554$, $N = 182$, $p=0.0362$), suggesting that the higher a respondent scored on COPE, the higher he or she scored on SoC.
- A non significant negative relationship of weak or no strength was evident between the internal LoC and COPE variable ($r = -0.1331$, $N = 182$, $p = 0.0733$).

In general, a p-value lower than 0.05 is considered to be statistically significant. As previously indicated (see chapter 6, section 6.5.1), a slightly negative relationship between the linear fit between LoC influencing coping was detected, which meant that higher scores of coping were associated with lower scores of LoC. It was also indicated that where SoC influenced coping, there was a slightly positive relationship, meaning that higher scores of coping were associated with higher scores of SoC.

7.3 HYPOTHESES OF THE RESEARCH

Based on the results of the study, the following hypotheses were formulated (see chapter 1, section 1.5):

7.3.1 Summary of the central and research hypothesis

Research	Description	Supportive hypothesis	evidence
Ha1	There is a statistically significant relationship between the variables coping and SoC	Yes	between the variables coping and SoC
H02	There is no statistically significant relationship between the variables coping and LoC	Yes	between the variables coping and LoC
Ha3	There is a statistically significant relationship between the variables SoC and LoC	Yes	between the variables SoC and LoC

7.4 LIMITATIONS OF THE RESEARCH

The following limitations were identified.

7.4.1 Limitations of the literature review and empirical study

During this study, the researcher had to rely on conveniens sampling. This was a definite limitation of the research, in that it could only be generalised to the population and not more widely. Since this study was only conducted in one petrochemical organisation in South Africa, the findings could not be generalised to other organisations.

A small sample size contributed to findings that could not be generalised to the entire organisation or to employees in other petrochemical organisations. When transferability of the findings is considered, the context in which this study was conducted should be taken into account.

More equal samples of respondents should be used with specific focus on gender (high percentage of females was used) and population groups (high percentage of white respondents were used).

There also appears to be a paucity of published research on the relationships between the wellness constructs (SoC, LoC and coping) in the workplace. Hence the constructs were discussed largely in terms of organisational success and not sufficiently in terms of wellness in an organisational context.

7.5 CONTRIBUTION TO THE INDUSTRY

Knowing and understanding the concept of the relationship between the three wellness constructs within this petrochemical industry has made a contribution towards the human wellness as well as occupational success of its employees.

In light of the above, the aim of this study was to examine the relationship between coping, locus of control and sense of coherence in order to establish what potentially makes an employee perform well in this work environment.

Through the understanding of this relationship the petrochemical organisation will be able to identify potential leaders or talented individuals early enough in the recruitment or succession planning process; they will now be able to channel the necessary resources into their development, thereby creating efficiencies in the identification process of current and future leaders.

Furthermore, all three constructs are somehow related to the psychological wellness of the individual, which in return will assist with the formation of a holistic idea of all the skills an individual requires to perform the job well as well as promote the optimal performance of its employees.

7.5.1 Recommendations for further research

The following recommendations apply to possible to future research:

- An additional research project in the same organisation and using the same measuring instruments might be of longitudinal value in evaluating the applied recommendations and the effect thereof.

- In any additional research, it is recommended that larger, more diverse samples be used as well as the inclusion of other organisations.
- It is also recommended that a proportional study, which includes organisations from different countries, be conducted, in order to investigate the influence of different cultures and other diversity constraints in the working environment.
- The organisation should focus its recruitment endeavours on employees with a strong SoC and constructive coping strategies. The organisation should also make an effort to develop employees' SoC by providing information in a consistent, structured, ordered and understandable format.
- The development and sustainability of coping strategies are also an important intervention. In this regard, employees should be made aware of which coping strategies they are likely to use in stressful situations and how these strategies can influence their levels of wellness.
- For further research it can be suggested / recommended that a more represented sample is used to further explore the relationship between these three constructs.

Although the findings seemed to be generally positive, it is still necessary to determine specific interventions and ways to strengthen employees' commitment towards the organisation. An organisational environment which employees find encouraging, safe and supportive as well as an organisation which invests in their career development, could lead to a proactive, affective and wellness-focused organisation, which in return would increase levels of organisational commitment.

7.6 SUMMARY

This chapter concluded the final steps of the research study. The conclusions, in terms of both theoretical and empirical objectives, were discussed. Possible limitations were mentioned, and recommendations made for the organisation involved in the study and for future research. The aim of the study was achieved, that is, to determine the relationship between SoC, LoC and coping in the petrochemical organisation.

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Appendix 1

BIOGRAPHICAL QUESTIONNAIRE

GENDER (Please only select one answer).

1. Male
2. Female

AGE GROUP (Please only select one answer).

1. 18 – 25 years
2. 26 – 35 years
3. 36 – 42 years
4. 43 – 51 years
5. 52 and older

CULTURAL GROUP (Please only select one answer).

1. African
2. White
3. Coloured
4. Asian
5. Other

LEVEL OF EDUCATION (Please only select your highest level).

1. Matric/Gr 12 (or equivalent)
2. Undergraduate degree/diploma/certificate
3. Honours degree or equivalent
4. Master's degree or equivalent
5. Doctoral degree or equivalent
6. Other

ORGANISATIONAL LEVEL (Please select your current level in the organisation).

1. Top management
2. Senior management
3. Middle management
4. Skilled / Professional
5. Semi-skilled / Operational
6. Basic skills

YEARS' EXPERIENCE AT THIS CURRENT EMPLOYER (Please select the years of experience at this current employer only)

1. 0 – 3 years

2. 4 – 10 years
3. 11 – 20 years
4. 21 years and more

COPING: (Please only choose the one most appropriate answer - Indicate what YOU usually do when YOU experience a stressful event.)

I ask people who have had similar experiences what they did.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I refuse to believe it has happened.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to grow as a person as a result of the experience.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I force myself to wait for the right time to do something.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I put aside other activities to try and concentrate on this.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I take additional action to try and get rid of the problem.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I get used to the idea that it happened.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I talk to someone about how i feel.

- A. I usually don't do this at all
- B. I usually do this a little bit

- C. I usually do this a medium amount
- D. I usually do this a lot

I think about how i might best handle the problem.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I put my trust in god.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I sleep more than usual.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I use alcohol or drugs, in order to think about it less.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I admit to myself that i can't deal with it, and quit.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I let my feelings out.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to get emotional support from friends and relatives.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I say to myself: "this isn't real".

- A. I usually don't do this at all

- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to see it in a different light to make it more positive.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I make sure not to make matters worse by acting soon.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try hard to prevent other things from interfering with my efforts at dealing with this.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I make a plan of action.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I learn to live with it.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to get advice from someone about what to do.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I do what has to be done, one step at a time.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I pray more than usual.

- A. I usually don't do this at all
- B. I usually do this a little bit

- C. I usually do this a medium amount
- D. I usually do this a lot

I turn to work or other substitute activities to take my mind off things.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I give up the attempt to get what I want.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I get upset and let my emotions out.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I get sympathy and understanding from someone

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I pretend that it hasn't really happened.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I look for something good in what is happening.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I restrain myself from doing anything too quickly.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I take direct action to get around the problem.

- A. I usually don't do this at all
- B. I usually do this a little bit

- C. I usually do this a medium amount
- D. I usually do this a lot

I accept that this has happened, and that it can't be changed.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I talk to someone who can do something concrete about the problem.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to come up with a strategy about what to do.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I go to the movies, or watch tv or think about it.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I try to find comfort in my religion

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I focus on dealing with the problem, and if necessary let other things slide a little.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I reduce the amount of effort i am putting into solving the problem.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I feel a lot of emotional distress and i find myself expressing those feelings a lot.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount

D. I usually do this a lot

I talk to someone to find out more about the situation.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I act as though it hasn't ever happened.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I learn something from the experience.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I hold off doing anything about it until the situation permits.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I concentrate on my efforts on doing something about it.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I keep myself from becoming distracted by other thoughts or activities.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I think hard about what steps to take.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I accept the reality of the fact that it has happened.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I discuss my feelings with someone.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I just give up trying to reach my goal.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I seek god's help.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I daydream about things other than this.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

I get upset, and i am really aware of it.

- A. I usually don't do this at all
- B. I usually do this a little bit
- C. I usually do this a medium amount
- D. I usually do this a lot

LOCUS OF CONTROL: For each question, select the statement that you agree with the most.

- a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
- a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
- a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
- a. In the long run people get the respect they deserve in this world
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries
- a. The idea that teachers are unfair to students is nonsense.

- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
 - a. Without the right breaks one cannot be an effective leader.
 - b. Capable people who fail to become leaders have not taken advantage of their opportunities.
- a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them don't understand how to get along with others.
- a. Heredity plays the major role in determining one's personality
- b. It is one's experiences in life which determine what they're like.
- a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
- a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
- b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
- a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
- b. Getting a good job depends mainly on being in the right place at the right time.
- a. The average citizen can have an influence in government decisions.
- b. This world is run by the few people in power, and there is not much the little guy can do about it.
- a. When I make plans, I am almost certain that I can make them work.
- b. It is not always wise to plan too far ahead because many things turn out to- be a matter of good or bad fortune anyhow.
- a. There are certain people who are just no good.
- b. There is some good in everybody.
- a. In my case getting what I want has little or nothing to do with luck.
- b. Many times we might just as well decide what to do by flipping a coin.
- a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
- b. Getting people to do the right thing depends upon ability. Luck has little or nothing to do with it.

- a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
 - b. By taking an active part in political and social affairs the people can control world events.
- a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as "luck."
- a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
- a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends upon how nice a person you are.
- a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
- a. With enough effort we can wipe out political corruption.
 - b. It is difficult for people to have much control over the things politicians do in office.
- a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
- a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
- a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck plays an important role in my life.
- a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.
- a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
- a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
- a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

SENSE OF COHERENCE: (Please mark the number which expresses your answer best).

WHEN YOU TALK TO PEOPLE, DO YOU HAVE THE FEELING THAT THEY DON'T UNDERSTAND YOU?

feeling	1	2	3	4	5	6	7	Always have this feeling
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Never have this

IN THE PAST, WHEN YOU HAD TO DO SOMETHING WHICH DEPENDED UPON COOPERATION WITH OTHERS, DID YOU HAVE THE FEELING THAT IT?

surely wouldn't get done	1	2	3	4	5	6	7	surely would get done
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THINK OF THE PEOPLE WITH WHOM YOU COME INTO CONTACT DAILY, ASIDE FROM THE ONES TO WHOM YOU FEEL CLOSEST. HOW WELL DO YOU KNOW MOST OF THEM?

you feel that they're strangers	1	2	3	4	5	6	7	you know that very well
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DO YOU HAVE THE FEELING THAT YOU DON'T REALLY CARE ABOUT WHAT GOES ON AROUND YOU?

very seldom or never	1	2	3	4	5	6	7	very often
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HAS IT HAPPENED IN THE PAST THAT YOU WERE SURPRISED BY THE BEHAVIOUR OF PEOPLE WHOM YOU THOUGHT YOU KNEW WELL?

never happened	1	2	3	4	5	6	7	always happened
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HAS IT HAPPENED THAT PEOPLE WHOM YOU COUNTED ON DISAPPOINTED YOU?

never happened	1	2	3	4	5	6	7	always happened
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LIFE IS:

fully of interest	1	2	3	4	5	6	7	completely routine
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UNTIL NOW YOUR LIFE HAS HAD:

no clear goals or purpose	1	2	3	4	5	6	7	very clear goals and purpose
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DO YOU HAVE THE FEELING THAT YOU'RE BEING TREATED UNFAIRLY?

very often	1	2	3	4	5	6	7	very seldom or never
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IN THE PAST TEN YEARS YOUR LIFE HAS BEEN:

full of changes without you knowing what will happen next	1	2	3	4	5	6	7	completely consistent and clear
---	---	---	---	---	---	---	---	---------------------------------

MOST OF THE THINGS YOU DO IN THE FUTURE WILL PROBABLY BE:

completely fascinating	1	2	3	4	5	6	7	deadly boring
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DO YOU HAVE THE FEELING THAT YOU ARE IN AN UNFAMILIAR SITUATION AND DON'T KNOW WHAT TO DO?

very often	1	2	3	4	5	6	7	very seldom or never
------------	---	---	---	---	---	---	---	----------------------

WHAT BEST DESCRIBES HOW YOU SEE LIFE:

one can always find a 1 2 3 4 5 6 7 there is no solution to solution to painful things painful things in life in life								
---	--	--	--	--	--	--	--	--

WHEN YOU THINK ABOUT YOUR LIFE, YOU VERY OFTEN:

feel how good it is to be alive	1	2	3	4	5	6	7	ask yourself why you exist at all
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WHEN YOU FACE A DIFFICULT PROBLEM, THE CHOICE OF A SOLUTION IS:

always confusing & hard to find	1	2	3	4	5	6	7	always completely clear
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DOING THE THINGS YOU DO EVERY DAY IS:

a source of deep pleasure and satisfaction	1	2	3	4	5	6	7	a source of pain and boredom
--	---	---	---	---	---	---	---	------------------------------

YOUR LIFE IN THE FUTURE WILL PROBABLY BE:

full of changes without your knowing what will happen next	1	2	3	4	5	6	7	completely consistent and clear
--	---	---	---	---	---	---	---	---------------------------------

WHEN SOMETHING UNPLEASANT HAPPENED IN THE PAST YOUR TENDENCY WAS:

"to eat yourself up" about it	1	2	3	4	5	6	7	to say "ok, that's that, I have to live with it"
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DO YOU HAVE VERY MIXED-UP FEELINGS AND IDEAS?

very often	1	2	3	4	5	6	7	very seldom or never
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WHEN YOU DO SOMETHING THAT GIVES YOU A GOOD FEELING:

it's certain that you'll go on feeling good	1	2	3	4	5	6	7	it's certain that something will happen to spot the feeling
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DOES IT HAPPEN THAT YOU HAVE FEELINGS INSIDE YOU WOULD RATHER NOT FEEL?

very often	1	2	3	4	5	6	7	very seldom or never
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YOU ANTICIPATE THAT YOUR PERSONAL LIFE IN THE FUTURE WILL BE:

totally without meaning or purpose	1	2	3	4	5	6	7	full of meaning and purpose
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DO YOU THINK THAT THERE WILL ALWAYS BE PEOPLE WHOM YOU'LL BE ABLE TO COUNT ON IN THE FUTURE?

you're certain there will be	1	2	3	4	5	6	7	always you doubt there will be
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DOES IT HAPPEN THAT YOU HAVE THE FEELING THAT YOU DON'T KNOW EXACTLY WHAT'S ABOUT TO HAPPEN?

very often	1	2	3	4	5	6	7	very seldom or never
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MANY PEOPLE - EVEN THOSE WITH A STRONG CHARACTER - SOMETIMES FEEL LIKE SAD SACKS (LOSERS) IN CERTAIN SITUATIONS. HOW OFTEN HAVE YOU FELT THIS WAY IN THE PAST?

Never	1	2	3	4	5	6	7	very often
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WHEN SOMETHING HAPPENED, HAVE YOU GENERALLY FOUND THAT?

you overestimated or underestimated its importance	1	2	3	4	5	6	7	you saw that in the right proportion
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WHEN YOU THINK OF DIFFICULTIES YOU ARE LIKELY TO FACE IN IMPORTANT ASPECTS OF YOUR LIFE, DO YOU HAVE THE FEELING THAT:

you will always succeed in overcoming the difficulties	1	2	3	4	5	6	7	you won't succeed in overcoming the difficulties
--	---	---	---	---	---	---	---	--

HOW OFTEN DO YOU HAVE THE FEELING THAT THERE'S LITTLE MEANING IN THE THINGS YOU DO IN YOUR DAILY LIFE?

very often	1	2	3	4	5	6	7	very seldom or never
------------	---	---	---	---	---	---	---	----------------------

HOW OFTEN DO YOU HAVE FEELINGS THAT YOU'RE NOT SURE YOU CAN KEEP UNDER CONTROL?

very often	1	2	3	4	5	6	7	very seldom or never
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Appendix 2

Participant consent form

This informed consent document consists of two separate sections:

Part 1: Information and motivation for the study

Part 2: Certificate of consent – for your completion

Part 1: Information sheet Introduction

I, Lienkie Lübbe, am currently conducting research as part of my Master's degree in Human Resource Management. The research will be conducted on Sasol employees and it will be an investigation of the relationship between, coping, sense of coherence and locus of control in a petrochemical organisation. I invite you to join me on this journey of discovery and would sincerely appreciate each respondent's participation. Below you will find more information on the research. You are welcome to contact me at any stage should you have any enquiries.

Purpose of the research

The world of work is changing rapidly. Employment trends affect the quality and quantity of work in general, and the changing nature of competition creates contradictions in the work experience (Snyder & Lopez, 2002). These changes are reshaping all kinds of organisations and are altering the way they operate (Prichett & Pound, n.d.)

This study therefore examines the relationship between the wellness constructs: Coping, internal locus of control and sense of coherence, in order to establish what potentially makes an employee perform well in the face of challenges such as those currently faced in the petrochemical industry.

Selection of participants

You are invited to participate because you are an employee working at Sasol (Pty) Ltd.

Voluntary participation

Please clearly note that your participation in this research is completely voluntary.

Type of research intervention

The intervention will consist of the following three questionnaires:

- Sense of Coherence Questionnaire
- COPE Questionnaire
- Locus of Control Questionnaire

I request that you complete these questionnaires honestly and sincerely. These questionnaires are short and will take approximately 45 minutes to complete.

Procedures

You will receive the questionnaires in your outlook mailbox as an e-mail. Please open the attached word document, complete it and send it back to me at lienkie.lubbe@sasol.com. Should you prefer it you can also print the questionnaires, complete the hard copy and send it to my office (You are welcome to contact me for the address). I will be the only individual who will have access to your completed questionnaires.

Benefits

You are part of an extraordinary group of individuals at Sasol. This study may have no immediate direct benefit for you, but your participation may lead to the indirect assistance of your fellow employees. A small change can sometimes make a big difference, and together we can be better. **Confidentiality** Details of specific individuals will under no circumstances be shared. However, there will be feedback sessions to management, but no individuals will be named and only statistical results will be shared. The

documents will at all times be numbered, but no names will be connected to specific data. Each participant will receive a summary of the results.

Duration

The questionnaires will take approximately 45 minutes to complete.

Refusal/withdrawal

The research is voluntary and should you wish to refuse or withdraw at any time, it will not affect your merit or working conditions in any way.

Contact details

Questions may be directed to me via email or telephone.

Email: lienkie.lubbe@sasol.com

Telephone: 082 784 5750

017 610 7769

- Informed consent form -

Informed consent for participation in an academic research study

Department of Business and Management Sciences

TITLE OF THE STUDY:

THE RELATIONSHIP OF WELLNESS CONSTRUCTS IN EMPLOYEES COPING IN A PETROCHEMICAL ORGANISATION IN SOUTH AFRICA

Research conducted by:

Ms H. H. Lübbe (49119400)
Cell: 082 784 5750

Dear Respondent

You are invited to participate in an academic research study conducted by Heilda Helena Lübbe (Lienkie) a Master's in Business Management and Science student from the University of South Africa.

The purpose of the study is to investigate the relationship of wellness constructs in employees coping within petrochemical organisations in South Africa.

Please note the following:

- This study involves an anonymous survey. Your name will not appear in the research and the answers you give will be treated as strictly confidential. You cannot be identified in person on the basis of the answers you supply.
- Your participation in this study is extremely important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of the findings on request.
- Please contact my supervisor, Dr Yvonne Joubert, 082 721 9862 if you have any questions or comments on the study.

Please sign the form to indicate that you

- have read and understand the information provided above
- give your consent to participate in the study on a voluntary basis

Respondent's signature

Date