CHAPTER 1

INTRODUCTION

This thesis focuses on the development of a holistic model that explains wellness within a working context. It also aims at developing a systemic work-wellness model that explains the relationships between certain individual dispositions, important organisational factors and the experience of wellness at work. A holistic work-wellness model contributes to theory building in the fields of organisational and positive psychology (psychofortology).

In Chapter 1 a brief description is presented of the subject matter of the study and the research problem. Related literature studies demonstrate in this chapter the need for wellness research as a developing study field. Chapter 1 also deals with the impact of neglected health and wellness care. The motivation and value of the proposed research are also clearly outlined. Previous research in the field of wellness, wellness theories and the application of wellness models are discussed in Chapter 2. Chapter 3 deals with work wellness and wellness programs, while Chapter 4 explains the empirical research methodology. The characteristics of the study population and the measuring battery used are also addressed in Chapter 4. The research results are explained in Chapter 5 while Chapter 6 deals with the final systemic work-wellness model, conclusions and recommendations.

1.1 KEY FOCUS OF THE STUDY

Current research about wellness is fragmented and is generally focused on relational issues and studies of correlations between various constructs of wellbeing. Theory generation as a scientific objective, specifically in organisations, is rare and generally lacks a holistic and systemic approach to the phenomenon of wellness. Current research certainly needs a holistic, integrated and systemic understanding of wellness at work in order for health and wellness care to be effectively managed. Wellness models are established in the field of clinical psychology, but these models do not
integrate individual wellness in working environments. The Wheel of Wellness (Sweeney & Witmer, 1991; Witmer & Sweeney, 1992), The Indivisible Self: An Evidence-Based Model of Wellness (Myers & Sweeney, 2005) and the Perceived Wellness Model (Adams, Benzer and Steinhardt, 2001) are the most recent wellness models. As in the case of the other models, the Wheel of Wellness model evolved from an examination of existing theories, relative to components of wellness (Myers & Sweeney, 2004). These wellness models are developed in the study field of clinical and counselling psychology. Wellness models from clinical psychology and the many theories that support it need to be incorporated into a systemic work-wellness model if they are to make meaningful contributions to the field of industrial psychology.

A holistic work-wellness model that will contribute to a clear understanding of the concept work-wellness will require an integration of a wide range of constructs of wellness, individual dispositions and organisational factors. A widely accepted systemic model of work-wellness should be based on an understanding of preceding, independent, moderating and antecedent variables that relate and contribute to work wellness. Wellness as the dependent variable is conceptualised within the life domains of: (i) family and social interaction; (ii) the work; (iii) spirituality; (iv) emotionality; (v) intellectuality; and (vi) physicality. The present research is aimed at developing a work-wellness model that integrates all relevant variables and constructs that contribute to wellness in a working context.

Several shortcomings of existing scientific knowledge of wellness in general and work wellness in particular, are mentioned in the introductory remarks. Besides addressing and eliminating many of these shortcomings, the envisaged work-wellness model also ought to clarify the applicability of the illness-health-wellness continuum in the working environment. A more precise assessment of work wellness levels in organisations should be possible. Although illness will not be totally excluded from this study the focus will be more towards the positive side of the illness-health-wellness continuum.
1.2 PROBLEM STATEMENT

Wellness is not researched in a positive, holistic, systemic and integrated manner (Wissing, 1997, 2000). The health and social sciences have traditionally been characterised by a pathogenic paradigm, an orientation towards abnormality, sickness, diseases and dysfunction as the direct opposite of wellness (Strümpfer, 1995, 2002). Such knowledge is then used to find ways of treating and preventing each of the diseases. Businesses, institutions and professions, ranging from medicine to pharmaceutical firms, from the insurance industry to the mass media turn handsome profits by assuring clients of physical, emotional and behavioural threats as well as selling the required treatments (Saleebey, 1997). This verifies the fact that attention should also be given to wellness research - on the other side of the illness-health-wellness continuum (Antonovsky, 1987; Seligman & Csikszentmihalyi, 2000; Strümpfer, 1995; Wissing, 2000). Developing the positive and strength of human behaviour.

Recently there’s been a growing trend among organisations to realise the importance of the so-called human factor (Snyder & Lopez, 2002). Various disciplines highlight the importance of the “good life” and gives attention to the total well-being or wellness of people (Ryff & Snyder, 1998). Multidisciplinary study fields bring different theoretical perspectives to the wellness paradigm and should be integrated. Interdisciplinary team approaches allow more holistic integration and understanding. Non-psychological study fields focus on wellness from their own school of thought and contribute meaningfully to
theory building in those disciplines. Dietary, nutritional, health and fitness management serve as examples hereof but all lack a holistic interdisciplinary approach (Adams, 2000). Holistic health and wellness research requires an integrated, multidisciplinary approach, even among current research psychologists.

The psychology profession adheres to the importance and the holistic understanding of the strengths, coping patterns, adaptive abilities and growth potential of individuals (Antonovsky, 1987; Strümpfer, 1995; Seligman & Csikszentmihalyi, 2000). It is crucial for psychologists to assist people to achieve high levels of psychological well-being and wellness (Dunn, 1961, 1977; Wissing, and Van Eden, 1997). It is necessary to address the origins of health and psychological strengths as a point of departure. Behavioural activities and personality characteristics that promote wellness and prevent sickness require sound scientific research.

Research can focus on the nature, dimensions and dynamics of wellness on individual, group, organisation and population levels, as manifested in various phases of the life cycle (childhood, adolescence, adulthood, old-age) in various contexts (cultural, interpersonal, work or technological surroundings) and taking into account internal as well as external risk and protective factors, demographics and other moderating or mediating variables (Dunn, 1961). Socially responsible and ethically respectable programmes based on scientifically validated knowledge (theories and models) can be developed, and the effectiveness and efficacy analysed and evaluated.

Philosophical, theoretical and empirical analyses are essential to research wellness. Extensive quantitative studies using sophisticated designs and statistical procedures, as well as qualitative investigations, exploring new fields of psychological strengths are needed (Strümpfer, 2002). Many constructs related to the hypothesised main components and clusters of wellness also needs clarification (Wissing, 2000) in order to establish to what degree they have the same empirical denotation even though their
conceptualisations might differ. Some of these constructs are well operationalised, but many still need more empirical clarification.

Wellness is understood in the present research project as a total person’s approach towards improving quality of life, health and psychological strengths in proactive and positive ways for employees (Witmer, Sweeney & Myers, 1998). It is acknowledged that wellness also includes optimal physical health and psychological as well as social well-being and not the mere absence of illness. Researching wellness in this project requires an understanding that wellness forms part of a holistic integrated system and not only the subparts of the system (Strümpfer, 2002). A better understanding of wellness, its theoretical and conceptual base and its application in organisations is therefore required. This present research also contributes especially to a systemic and holistic understanding of wellness in working environments.

Widespread attempts are made to stimulate research into the origins of strengths in all areas of human well-being (Antonovsky, 1987, Strümpfer, 1995 and Seligman & Csikszentimihalyi, 2000). Maslow (1970) provided direction with research on growth, self-actualisation and the pursuit of psychological health that should be accepted as a universal human tendency. In the fifties wellness was frequently referred to as wholeness (Adler, 1954) while some theorists referred to the human psyche’s need for integration towards wholeness and health (Jung, 1958). In this research project, clarification of wellness terminology as well as defining work wellness will enlighten the ambiguity that exists among psychologists and developmentalists.

The World Health Organisation (1964) has defined optimal health (not wellness) as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Wissing (2000) adds some perspective by stating that the salutogenic/fortigenic paradigm assumes on a metatheoretical level that it is important to focus on health, strengths and capabilities. Although many researchers (Adams, 1998; Dunn, 1961) have formulated various definitions for the term wellness the comprehensive
definition of Myers and Sweeney (2005) is used in this research project. They define wellness as a way of life orientated toward optimal health and well-being in which the individual integrates body, mind and spirit to live more fully within the human and natural community. Ideally it is an optimal state of health and well-being that each individual is capable of achieving in all domains of life (Myers, Sweeney and Witmer, 2000). The application of this optimal physical, emotional and mental state at work is important for this study in developing a work-wellness model.

Applying wellness at work can be outlined as a total system incorporating an optimal self and quality of life, with the obvious application of all the constructs that apply in a working environment. Focusing on the strengths and contextual variables that influence human behaviour at work is required. Integrating all subsystems into a holistic and systemic perspective for work wellness theory and wellness models. Understanding holistic work wellness theories enable leaders to apply a systemic approach to manage wellness in organisations.

Managers devote meticulous attention to the analysis of culture and climate as measures of staff morale. This type of organisational diagnosis most of the time gives leadership valuable snapshot indications, enabling them to intervene and transform the organisation’s culture towards an ideal state (Keyes & Haidt, 2003). The limitation of these types of measures is that they don’t necessarily help management to understand the health and wellness needs of the human capital. This leads to the fact that the potential of employees is not optimised to its fullest extent. A reactive approach also means that individuals as organisational resources, will run down and eventually burn out in time to come (Redelinghuys & Rothmann, 2003). The strategic need exists to also focus on what is below the “waterline” of the human capital “iceberg”.

Developing the underlying competence and internal psyche of employees is of great importance for organisational health and wellness. It means that organisations should also have a proactive development approach instead of clinging onto a reactive illness model (pathogenic paradigm) of human capital
development. The present research project addresses this management dilemma, to holistically understand how individuals and organisations can move towards wellness (Crose, Nicolas, Gobble & Frank, 1992).

Organisations (as is the case with individuals) find themselves on a continuum that depicts a state of healthy or normal performance in the middle, with illness and wellness as opposing poles of the same continuum (Cameron, Dutton & Quinn, 2003). Conditions of negative or deviating performance that occur on the left of the continuum and a state of positively deviating performance that appears on the right (representing wellness), illustrate the organisational development approaches that can be followed (Cameron, 2003). Negative (illness-health) and positive (health-wellness) deviance refers to aberrations of harmfulness or healthy functioning, to one extent and virtuous (flourishing) organisations and individuals on the other end of the continuum (Keyes & Haidt, 2003).

South African organisations mainly apply a negative (or illness-health) approach to human resource management by focusing only on the promotion of health, creation of wealth and peak performance as the key indicators of success (Cameron, Dutton & Quinn, 2003). They function in a “negative” domain and use medical-remedial paradigm. These organisations are typified by greed, selfishness, manipulation, secrecy and single-minded focus on winning (Cameron, 2003). It is further reported that the behaviours of individuals working in such organisations are characterised by distrust, anxiety, self-absorption, fear, burnout and feelings of abuse (illness). Industrial conflict, lawsuits, contract breaking, retribution and disrespect characterise many interpersonal interactions and relationships in these organisations (Harter, Schmidt & Keyes, 2003).

Appreciation, collaboration, virtuousness, vitality and meaningfulness typify the other side of the continuum, namely the health-wellness approach. Creating abundance and human wellness are key indicators of success in organisations that flourish as a result of their employee wellness (Keyes & Haidt, 2003). Employees of such organisations are characterised by
trustworthiness, resilience, wisdom, humaneness and high levels of positive energy. Self-efficacy, optimism, hope, happiness and joy, generosity, perseverance, courage, coping and flow are indicators of positive organisational behaviour (Seligman, 1998). Interpersonal relationships are characterised by compassion, loyalty, honesty, respect and forgiveness. Significant attention and emphasis is hereby given to what makes life, and working life per se, meaningful, optimal and worth living for (Cameron, Dutton & Quinn, 2003).

The paradigm of positive psychology provides a framework to study wellness in organisations as an emerging field. Research in this field of study will build and expand theory in order for wellness researchers to broaden their understanding of human functioning. Developmental research about the wellness of people can bring about a richer understanding of their wholeness and strengths (Adler, 1954; Antonovsky, 1987). A high level understanding of wellness in an organisational context adds value to organisational psychology as well.

The validations of conceptual models form an important prelude to integrate wellness principles into practice in current research. Unfortunately, the theories and conceptual foundations have not been used to shape research questions or influence programme development, nor have they been empirically evaluated. Wellness theories provide direction and orientation to the present researcher who is interested in studying the origins, dynamics and enhancement possibilities of wellness. Theories are used to test specific hypotheses or existing models adapted to evaluate the development of a work-related model. Its practical application regarding the casual interdependencies of psychological constructs and organisational factors bring about a new work-wellness model. Therefore, both the development and validation of a holistic model of work wellness is needed.
1.3 IMPACT OF THE PROBLEM

All life domains demonstrate the illness-health-wellness problems that organisations are confronted with (Hettler, 1984). Physical, emotional, intellectual, social and family as well as spiritual life domains are used to discuss the current dilemmas that are experienced in organisations. All of these factors discussed hereunder contribute to the fact that wellness is neglected and that organisations are overloaded with only illness management.

**Physical illness and health** is the most dominant life domain that is addressed by studies of wellness and health. Maslow (1970) verified that security and food are the most basic and most important needs to be fulfilled towards self-actualisation. Good nutrition forms the basis of healthy living and proper weight management.

Benzer, Adams and Whistler (1999) studied the relationship between physical activity and indicators of perceived wellness. They found that greater physical activity and leisure time activity was associated with higher perceived physical and psychological well-being. Those participants with more leisure-time activity had greater overall perceived wellness scores. Higher discrepancies between the actual self and the ideal self were related to worse functional health and more physical symptoms in cancer patients (Heidrich, Forsthoff and Ward, 1994). Strauman, Lemieux and Coe (1993) have found an association between priming self-discrepancies and negatively altered immune responses in a sample of dysphonic and anxious participants. This study also showed evidence that wellness programmes with moderate amounts of physical activity can lead to wellness benefits.

Diseases, psychosomatic symptoms, stress and cancer are some illness-related problems that organisations need to address. Major diseases, such as Tuberculosis, HIV/Aids, Cholera and Ebola are indications of ill health among South African employees. It is predicted that more than 75 million people in the United States of America will have cancer some time in their lives and
about 30% of the population will be affected in one way or another by this illness (Zimpfer, 1992). It is further reported that 85% of all physical human illness can be addressed by a strong immune system. These illnesses can be countered and prevented if promotional health and wellness managed care prevails.

Vermeulen (2003) reports that many people have physical consequences that are attributable to long-term exposure to stressful situations in the workplace. Eysenck (1988) found that smoking in combination with life stress constituted cancer as mediating variable for illness. This could have significant ramifications for people and organisations partaking in global economic activity (Viljoen & Kirsten, 2004). Makgoba (2001) of the Medical Research Council reports that an estimated total of 4.2 million South Africans are infected with HIV/AIDS and the epidemic continues to grow at a rapid rate. Nel (2004) confirms this by reporting that the number of HIV/AIDS infected South Africans continues to escalate and there is no doubt that this will also impact on productivity levels. Employee assistance programs in this regard impact drastically on eight of the nine leading categories of death and illnesses that are preventable (The Wellness Councils of America, 2000).

Benefits of physical health managed care indicate better quality of life, longevity, better immune system and reduced illnesses. Healthy eating habits also not only promote physical health but also prevent and protect individuals against illness.

Socialisation is confirmed by the studies of Campbell (1981) and Maslow (1970) as an important life domain of wellness. They report that friendships positively relate to higher levels of satisfaction with life. Cohen (1988) found potential connections between social support and health behaviours, self-esteem, personal control and the immune system. Psychoneuroimmunology has begun to fill the gaps in researchers understanding of the connections between cancer survival, psychosocial treatments and improved immune response (Pert, 1986). Patients were found to be more flexible and non-conforming, had more psychological insight and refused to give up as well as
survived significantly longer using group therapy as a method of treatment (Zimpfer, 1992). Employees who are detached from others and conversely who are so connected as to be completely enmeshed with others, are outside the normal range of socialisation and are considered less well (Crose et al., 1992). Case studies indicate that a lack of friendships, presence of illness, a shorter life expectancy and less satisfaction with life often go together. McWhirter’s study (1990) on interpersonal relationships, found that decreased activity of certain cells in the immune system and higher vulnerability to illness positively correlated to loneliness, as well as mild upsets and moodiness. In contrast Maslow (1970) described a healthy (self-actualised) person in a self-actualising model as someone that shows deep feelings of sympathy and affection for human beings as well as a person who is enjoying profound interpersonal relationships. Social interaction and quality relationships at work can therefore directly relate and form part of the development of wellness.

Survey data suggests that work-family life balance is a major problem in modern society (Oswald, 2004). It is reported that almost 85% of American workers say that they want to spend more time with their families. France, Portugal, Great Britain, Slovenia, East Germany and the Czech Republic follow America regarding this matter. Tytherleigh (2004) reports that work-life balance is a gender issue and in those working cultures where long hours are the norm, work prevents many fathers from having fulfilling family lives. Married men were almost twice as likely to outlive never-married men and were three times more likely to live longer than divorced men (Witmer and Sweeney, 1992). These researchers report that people who had never married had higher death rates, sometimes as much as five times higher than those of married individuals that participated in their study. Major studies by Berkman and Syme (1979) and Lynch (1977) confirmed the health and wellness benefits of intimate relationships. Work-family balance studies could not be found in South African organisations and the need to reduce the impact thereof does exist.

Spirituality as a positive sense of meaning and purpose in life also grows in importance for wellness research. Dunn (1966) stated that the spirit could no
longer be ignored as a factor in medical and health research. In addition, medicine has begun to recognise the influence of spirituality on illness. Duke University verified to all sceptics that prayer indeed has healing power (Chopra, 2000). The researchers took into account all variables, including heart rate, blood pressure, and clinical outcomes. Patients who had undergone invasive cardiac procedures were studied and prayed for without them knowing about it. Seven religious groups around the world were asked to pray. Researchers found that surgical patients’ recovery could be from 50 to 100 percent better if someone prayed for them (Chopra, 2000).

Other studies indicated that people who have deep-seated spirituality are generally healthier and happier. Harold Koenig (2005) states that regardless of the denomination of religious following, individuals who have a set belief system and who pray or meditate regularly appear to experience less depression, anxiety, drug and alcohol abuse and fewer suicides than people who are not spiritually involved.

Many observers have suggested that the public interest in spirituality is a symptom of increasing levels of isolation, disconnection, and existential frustration in society. Other research demonstrates that the development of meaning can add value to the practice of religion, whereas the practice of religion can deepen spirituality (Adams, Bezner, Drabbs, Zambarano & Steinhardt, 2000).

**Emotional** encounters form part of all people’s everyday life, as well as the working lives of employees. Emotional experiences can be draining or promotional for employees. The body’s basic health and healing mechanisms respond favourably to positive emotions (love, hope, optimism, joy) and negatively to negative ones (hate, hopelessness, anxiety, depression, loneliness). The longer negative emotions prevail, the more harmful their influence on the health of individuals. Continuous negative emotions cause people to experience “dis-ease”, that leads to disease in the long run (Vermeulen, 2003)
Frederickson (2002) argues that people should cultivate positive emotions in themselves and in those around them, towards fostering and achieving psychological growth and physical health. Research by Cooper (1998) supports the fact that when emotions are properly managed, they will drive trust, loyalty, team spirit and improved organisational accomplishments. Schutte, Malouff, Simunek, McKenley and Hollander (2002) mention the importance of cultivating positive emotion and higher self-esteem as characteristic of wellness among leaders. Most organisations produce highly stressful and pressured working conditions robbing employees of positive emotional experiences and inhibiting the wellness of employees.

Positive emotions are facilitated by managerial actions that support clear outcome expectancies, give basic material support, encourage individual contribution and fulfilment, develop a sense of belonging, as well as promote a chance to progress and learn continuously (Harter, Schmidt & Keyes, 2003). Workplace attitudes that relate most to high-performing business-unit outcomes are the four positive emotions of joy, interest, contentment and love (Frederickson, 1998). These emotions are not often expressed or experienced in South African organisations and do form part of the likelihood of an individual's flourishing.

Jonker and Scholtz (2004) regard positive emotions, and more specifically emotional intelligence, as part of the contributing factors, which can enhance the productivity and wellness of employees. Similar to Frederikson's (2002) “broaden and build theory”, Cooper (1997) says that the development of emotional intelligence results in higher productivity, loyalty, innovation and performance of individuals in organisations. In contrast, emotional deficiency can lead to uncertainty, low morale, lack of initiative, creativity and innovation, poor work performance, stress and burnout and poor relationships between employees (Jonker and Scholtz, 2004). Wolmarans (1998) states that inadequate emotional intelligence may result in low self-worth, resorting to power games, unrealistic expectations, low energy levels, poor work performance and the denying of emotions as examples of emotional
mismanagement (illness). Emotional deprivation can impact drastically on the morale and overall wellness of employees at work.

Negative emotions may limit cognition, but positive emotions may broaden and build human potential (Frederickson, 2003). Positive emotions affect information-processing strategies, influences creative thinking and broaden cognitive potential (Fiedler, 1988; Schwarz & Bless, 1991). Smith (2002) reports that optimistic thinking can lead to wellness in people despite the fact that they sometimes do experience stressful situations. This researcher states that neuropathy of functional salutogenic mechanisms can provide strategies to improve health and wellness. Neglecting the role of cognition and mental development can impact negatively on the wellness of employees.

**Cognition** can be filtered by depression and emotional illness, particularly when complex cognition is needed, like in most working environments (Harter, Schmidt & Keyes, 2003). Work performance and mental health also require a well-balanced state of mind. There are two states of mind, which ultimately enhance or suppress immune functioning as well as other body functions (Vermeulen, 2003). On the one side of the continuum is the positive mental condition or mindset, which is characterised by a purposeful individual, someone who is inspired and is generally optimistic. On the other side is the negative individual who is purposeless, does not connect well with others and has a poor self-image and poor self-esteem. According to Vermeulen (2003) this negative state of mind can be developed towards the positive by means of cognitive stimulation. Psychoneuroimmunological research confirms that thoughts and belief systems have a fundamental impact on some of the basic healing and health mechanisms and can be positively developed for employees.

To be truly wellness orientated, managers should be focusing on all of the life domains. They need to be committed to promoting the capacity of all employees to think and reason in complex ways, to be able to take into account the needs of both self and others, to live their lives fully and responsibly (Hatfield, 1992). Stretching levels of cognitive development
empowers employees to consider more alternatives, more self-care possibilities and better personal transactions within the organisation, helping them to be more creative and innovative at work.

The workplace is a significant part of an individual's life that affects their wellness. On average, adults spend as much as a third of their waking lives at work (Avolio & Sosik, 1999). Campbell, Converse and Rodgers (1976) argue that as much as a quarter of the variation in adult life satisfaction can be accounted for by satisfaction with work. Employee surveys (Wrzesniewski, McCauley, Rozin & Schwartz, 1997; Shantall, 2002) clearly show that a majority of employees desire greater meaning and personal development from their work and suggest that few employees see their work as enjoyable, fulfilling and socially meaningful. Job insecurity leads to downward spirals of lower morale, less commitment and underperformance performance, higher turnover as well as higher levels of social conflict (De Witte, 2004).

Statistics from the South African Department of Health (2000) note that the national average suicide rate caused by depression at work (Maslow's security need) is 17.2 per 100 000. This is slightly higher than the world average of 16 per 100 000. Suicide rates of officials of the South African Police Services are almost five times as high per 100 000 (South African Department of Health, 2000). This clearly illustrates the impact that organisations can have to secure and promote the mental wellness of its employees. It also highlights the need and importance to study the illness-health-wellness continuum in a working environment.

All of the above-mentioned research findings indicate the impact of the absence of health and wellness managed care for the employee. This in effect sustains illness, limits skills development and productivity in organisations. The mismanagement of wellness or managing only illness also impacts on the economic development of organisational functioning.

The economic impact of illness-health-wellness mismanagement can be disastrous. Health conditions of employees and their family members
significantly affect absenteeism, workplace productivity and employer costs (Gemson & Eng, 2004). These researchers reported a loss of $4.9 million per year as a result of allergic rhinitis and hay fever. These illness conditions had the highest costs associated with absenteeism ($496 per employee per annum) and presenteeism ($645 per employee) for a total cost of $1141 per employee in lost productivity in America.

Total paid expenses in terms of medical aid, sick leave pay, severance pay, pension contributions, legal benefits, employee insurance and life cover benefits should be calculated to understand the total economic impact (Wyatt, 2004). Cassidy (2004) reports that on- and off the job stress costs employers in America an estimated $200 billion a year in reduced productivity, accidents, health insurance and medical expenses. Rowley (2004) reports that businesses in the United Kingdom lose about £11 billion per year due to sickness absence. If the indirect costs of lost productivity, lost opportunity costs and low morale are brought into the calculation, it adds up to £23 billion a year.

The Business and Health Care Archive (2004) highlights the impact of unscheduled absence. The archive reports that employers spend about 4.4% of their payroll on incidental absence-related benefits such as sick days. This survey indicated that employee withdrawal leads to a large percentage of employers not being committed to the goals of their employers. Van der Westhuizen (2004) reports that one hundred and fifty million rand per annum is lost among municipal workers in the Cape metropole, because 29% of permanent workers take leave without permission on Fridays and Mondays.

The importance and economic benefit for the prevention of illness and the promotion of wellness is clear. Although so many organisations are still stuck in pathogenesis and recovery of health models, millions are lost because organisations do not promote wellness. It is therefore crucial that industrial psychologists take the lead and research practical and empirically tested wellness programmes that promote optimal productivity, interpersonal flourishing and personal thriving for employees. Implementing strategies and
organisational development interventions that focus on health and wellness managed care will contribute a great deal to the bottom line if management is prepared to invest some resources in work wellness.

1.4 MOTIVATION FOR THE STUDY

South African management is at this stage uninformed about what impact employee wellness could have on the development of the organisation. This lack of knowledge leads to mismanagement of the health and wellness of employees. Thus limits the growth opportunities for employees leading to under commitment within organisations. Optimum health and wellness management can lead to optimal productivity and flourishing organisations. It is based on the recognition and support of the rights of individuals to determine and manage their own quality of life and the promotion of it at work (Huiiskamp, 2004). In the new millennium it is the responsibility of the organisation to support individuals to develop their own wellness while their organisation also benefits from it. This proactive approach to develop employees’ wellness is lacking and research studies needs to promote it actively.

Healthier employees are more productive, creative, co-operative, competent and committed, miss fewer workdays and have fewer illnesses (Witmer and Sweeney, 1992). Several interventions unfortunately only incorporate strategies to help and support employees to move from illness to health – only the negative deviant of the continuum. The positive deviant (developing wellness and optimal behaviour) has been neglected and greater emphasis needs to be placed on this side of the continuum (Seligman, 2002; Seligman & Csikszentmihalyi, 2000, Dunn, 1961).

Luthins (2002) supports the view that the movement of positive psychology should promote and focus on the development of positive organisational behaviour as well. This researcher states that the field of organisational behaviour needs a proactive, positive approach by developing strengths, rather than continuing in the downward spiral of only trying to fix weaknesses
in organisations (Luthins, 2002). The ability of the workplace to prevent physical and psychological illness as well as to promote wellness is compatible with (and extends) the mission of positive organisational behaviour (Seligman, 2002).

Work, or the absence thereof, is a pervasive and influential part of the individual’s and the community’s behaviour. It affects the quality of life and the mental health of the individual, which affects the productivity of the entire community. Moller (2004) reports in the *South African Quality of Life Trends Study*, that only 34% of all South Africans are very satisfied and/or satisfied with the quality of their lives, including their working lives. In this study the researcher reports that the “best-off” are most satisfied and the “least-off” are the least satisfied. It also states that employment, as a major contributor of wellness is still a problem in South Africa. Understanding the real meaning of employment for individuals from a holistic perspective can help leaders to resolve this problem.

Organisations are encouraged to promote wellness rather than engender strains and mental illness. This obviously is of considerable benefit to employees and communities, and it also serves as a bottom line for the employer’s responsibility towards the employees (Harter, Schmidt & Keyes, 2003).

The wellness of employees is in the best interest of communities and organisations (Harter, Schmidt & Keyes, 2003). Keyes (1998) verifies the need for organisations to attend to the quality of life of employees as well as their performance at work. Limited research results are found on the full spectrum of the illness-health-wellness continuum, that incorporates both negative and positive organisational behaviour. This limitation adds to the fact that wellness is not widely researched in a working context.

Wellness research does not represent a single theory, but has a holistic, systemic and dynamic approach that is typically described by words such as excellence, thriving, flourishing, abundance, resilience or virtuosity (Keyes &
Haidt, 2003). Research represents and expands perspectives that include instrumental concerns but also put an increased emphasis on goodness and positive human potential. Positive organisational behaviourists direct attention to enablers in organisations such as processes, capabilities, structures, methods and outcomes. Typical outcomes include vitality, meaningfulness, exhilaration, high quality relationships and job satisfaction associated with the positive phenomena (Turner, Barling & Zacharatos, 2002). This type of research is lacking in South Africa currently and is addressed in the present research to some extent.

Literature clearly states that work wellness is driven by a shift in psychological research from the pathogenic paradigm (negative deviant) to a paradigm of health, psychological strength and wellness called the fortigenic paradigm (Antonovsky, 1987; Strümpfer 1990; Wissing, 2000). This paradigm originates from the behavioural, cognitive and health benefits of positive feelings, positive perceptions and positive dispositions as origins of strength (Isen, 1987; Seligman, 1998; Warr, 1999). Strümpfer (1990) regards sense of coherence, self-efficacy, optimism, subjective well-being, happiness and locus of control as some of the constructs of this new paradigm. Luthins (2002) argues that positive organisational constructs should have valid measures and be used in leadership and human resource development. This researcher views confidence or self-efficacy, hope, optimism, subjective well-being and emotional intelligence as important constructs that can contribute to performance improvement, positive organisational behaviour and wellness. None of these constructs is researched in a holistic, integrated and systemic manner to define a systemic work-wellness model.

The need to research a holistic work-wellness model lies in the fact that wellness is an integrated construct and cannot be researched in sections. Developing an integrated work-wellness model helps managers to understand wellness as a holistic system and enables Human Resources Consultants to implement programmes that address illness, health and wellness needs in organisations. A holistic work-wellness model can indicate the relational influence that exists between constructs of wellness, individual and
organisational factors. All of these wellness, individual and organisational constructs dynamically contribute to an integrated, systemic and holistic work-wellness model that explains the research field of positive organisational scholarship to some extent. Contributing perspective and building theory for health and wellness managed care.

1.5 SCIENTIFIC OBJECTIVES

The present research project contributes towards an expansion of theoretical and applied science by initially mapping and developing a holistic wellness model that is applied in a working environment. A holistic work-wellness model will be constructed after experimental assessment. This forms part of the empirical study of this research project. Defining wellness at work and identifying the causal relationship between dispositions and constructs that influence optimal behaviour in organisations is therefore projected.

Organisational factors, individual dispositions and wellness constructs are all of importance. A holistic and systemic work-wellness model will contribute to positive organisational behaviour and work wellness. New knowledge about work wellness that is generated, that will validate or contradict findings regarding the systemic relationships of organisational factors and individual dispositions will be conceptualised in an integrated systemic work-wellness model. Adams, Benzer and Steinhardt (1997) also state that a valid wellness model should include cultural, organisational and environmental factors or be connectable to models that include these factors. The present research therefore contributes to a sound scientific framework of the sub-disciplines of psychofortology (science of psychological strengths) (Strümpfer, 1995; Wissing & Van Eeden, 1997) and positive psychology (Seligman, 2000).

1.6 RESEARCH OBJECTIVES

The research design is based on nine methodological considerations and practical steps namely:
• **Step 1:** A literature study is conducted to conceptualise wellness, work wellness and the constructs that might affect the functioning of employees from the literature.

• **Step 2:** The sample is taken and test battery assembled.

• **Step 3:** The research group is introduced to the researcher, informed of the purpose, method, and procedure of the study, and their consent for participation is obtained.

• **Step 4:** The measuring battery is taken down individually.

• **Step 5:** The data is analysed and feedback is given to the respondents. The results are kept confidential.

• **Step 6:** Data are captured and analysed to determine the factor structures.

• **Step 7:** Independent models and a holistic work-wellness model are constructed. Structured equation modelling is done for each of the five models to determine the goodness of fit of the data.

• **Step 8:** All the data is integrated and conclusions and recommendations with regard to the insurance organisation in South Africa as well as future research are made.

• **Step 9:** The outcomes of the survey of literature and the results of the empirical investigation are used to generate a theory on work wellness and to develop a model for effectively assessing work wellness in the working environment.

### 1.7 RESEARCH METHODOLOGY

The research project is conducted in three phases. At first it is of an investigative nature and starts off with an extensive survey of available literature on work wellness. A preliminary model of work wellness is formulated in phase one out of the literature. The outcomes of the literature study are used to assess the nature of and the relationship between work wellness constructs, certain individualistic dispositions and relevant organisational factors. For this purpose a cross-sectional survey design is used (Bethlehem, 1999). The cross-sectional survey design lends itself to the examination of stable, long-term states or conditions and allows the researcher to make inferences from the sample to different populations. The
empirical study identifies those connections that occur without any planned intervention between the variables (phase two) as it is measured with validated questionnaires.

The results of phases one and two generate a theory and contribute to the formulation of a holistic model for work wellness. Resulting from phase three is a holistic work-wellness model that can be used for human capital management in organisations. This is achieved by redefining the initial work-wellness model from the literature in the light of the results of the experimental analysis.

Practical problems that are addressed in this design include errors of measurement. Sometimes the respondents do not understand questions in the survey, processing errors occur, errors made during data capturing and the third-variable problem (where a high correlation between two variables may be explained by a third variable with which both are highly correlated) are managed. One of the most profound practical problems of this design is the fact that clear causation between variables cannot be established. A pilot study is conducted to identify the most important measurement errors. Control techniques suggested by the Statistical Consultation Services of the University are used to limit processing errors. Statistical techniques such as multiple regression and structural equation modelling are used to compensate for the third-variable problem.

1.8 POPULATION AND LOCATION OF DATA

The research population consists of two thousand three hundred employees in a life insurance company in South Africa. The research sample represented different business units in the organisation and amounted to a valid amount of 673 participants. Each individual in the sample is simultaneously evaluated on all the relevant variables. The relationships between the variables are determined from the self-reported responses of the participants on the questionnaires.
1.9 CHAPTER SUMMARY

Chapter 1 addressed the overall perspective of this research project. It described the limitation of not being able to implement holistic work wellness programmes due to the fact that work-wellness models do not exist. The scientific and research objectives, the research methodology as well as the population and location of data are explained. Chapter 1 contribute to the general understanding of the research need and the research problem. Form the literature some perspective of previous studies conducted and the need for a positive approach are addressed although a in depth study on wellness literature are still required.

A literature study is conducted to conceptualise wellness as a holistic and systemic construct of positive human behaviour. Chapter 2 also address the definition of wellness, the theories that supports the development of the construct and the current wellness models that can be found in the literature.
CHAPTER 2

WELLNESS

Wellness as the absolute opposite of illness is defined and discussed in detail in this chapter. A number of evolving paradigms and theories as well as appropriate wellness models are discussed. The Perceived Wellness Model and the Indivisible Self: An Evidence-Based Model of Wellness is discussed to conceptualise and define the application of wellness for this study.

2.1 DEFINING WELLNESS

Psychologists in their pursuit to define wellness need to understand illness as the opposing side of the behavioural continuum. An overview of relevant research since the First World War, indicates that much of psychology has single-mindedly focused on a pathological model devoted to healing and to bringing about “normality” (Myers & Sweeney, 2004). This so-called medical model only focused on and explored the domain of illness, abnormality and behavioural disorders and by doing so neglects the positive side of human potential development (Myers, 1992; Seligman, 2002, Strümpfer, 2002). Conventional medical treatment of disease in humans assumes a curative perspective; removing illness and restoring the body to its normal functioning. Zimpfer (1992) states that the techniques used are typically external to the patient in the form of surgery or the prescription of medicine. During treatment the patient is passive and the general expectancy is that others will cure the disease or illness.

The core efforts of mainly the field of clinical psychology focused on the business of medicine and pathology, namely the illness ideology (Maddux, 2002). This model emphasises abnormality rather than normality (ignoring optimisation), maladjustment rather than adjustment and illness rather than health (excluding wellness). It portrays people who are seeking help as passive victims of intra-psychic and biological forces beyond their direct control (Antonovsky, 1987; Strümpfer, 1995). Such clients need to be “cured”
by experts. In this sense counselling focuses on identifying (diagnosing) a disorder (disease) inside a person (patient) and on a prescription of an intervention (treatment) that will eliminate (cure) the internal disorder (disease). For the purpose of this study illness is summarised as a dysfunctional, unhealthy and underdeveloped human condition, while health only refers to the unaffected physical bodily condition or state that people can be diagnosed with.

Relevant research dominated the pathogenic paradigm and an orientation towards abnormal. Ramley (1991) considered the description of this medical ideology of illness as a useful psychological model, unacceptable. This researcher countered the argument by pointing to the endless possibilities of positive psychology and the development of wellness. Ivey (1989) supported the notion that psychologists should neither only remediate nor prevent problems but rather cherish problems as opportunities for development and growth towards optimality as well. Antonovsky (1987, 1997) researched the origins of human health moving away from the pathogenic paradigm. Myers (1992) adds the argument that the development of human potential revolves around the intent of counselling that ought to incorporate concerns for prevention of illness as well as the enhancement of wellness. This perspective supports the positive psychology movement’s view of building upon a person’s best qualities in life and its intent to develop thriving individuals, families and communities in the 21st century (Seligman, 2002; Wissing & Van Eden, 1997, Strümpfer, 2002).

Very few historical researchers acknowledged the fact that wellness did form part of the human development continuum. Commenting on individual psychology, Adler (1954) referred to the importance of holism in trying to understand an individual. This researcher noted that it was necessary to look for reciprocal actions of the mind and the body, as both are parts of the whole. Jung (1960) also touched on the field by considering the continuous creative development of people towards a total and integrated self as a developmental process that leads towards “wellness”. The studies of Maslow (1970) about the characteristics of healthy people showed that the drive towards self-
actualisation, growth and excellence is a universal tendency for people. Frankl (1988) noted that humanity’s search for meaning and purpose in life is an important drive towards achievement of an optimal state. All of the mentioned researchers knew something about the optimal functioning of people but yet, at the same time, struggled to define wellness, as it is known today.

It was originally Halbert Dunn (1961) who coined the term wellness. Dunn (1961) constrained his original definition of wellness to the individual environment, by suggesting that the experience of wellness is unique to each individual. Adams, Benzer and Steinhardt (1997) elaborate on the definition of Dunn by defining wellness as when individuals are orientated towards maximising the potential that they are capable of.

Some literature indicates that the terms wellness and health promotion are used synonymously and are intended to refer to good health, a balanced life and optimal well-being. The World Health Organisation (WHO, 1948) defined health as a state of complete physical, mental and social well-being and not merely as the absence of disease or infirmity. Archer, Probert and Gage (1987) also describe wellness (as an extension of health), as a process and state towards maximum human functioning that involves the body, mind and spirit. The struggle to distinguish especially health and wellness are prominent in these conceptualisations of the construct. The definitions mentioned above also exclude some other areas of application. According to some other researchers, certain life domains should also form part of holistic wellness (i.e. spiritual, occupational, coping) and need to be included in definitions about wellness (Myers and Sweeney, 1961).

Since Dunn had formally defined wellness many others have conceptualised and illustrated this concept. Other definitions (Ardell, 1986; Hatfield, 1992; Rice, 1992) of wellness can be summarised as the continuous and deliberate process by which people are actively involved in enhancing their overall well-being: intellectually, physically, socially, emotionally, occupationally, spiritually. Myers, Sweeney and Witmer (2000) elaborate on this definition by
stating that wellness is a life orientation toward optimal health and well-being in which body, mind and spirit are integrated by the individual to live more fully.

Wellness practices are rooted in primary prevention of illness as well as the active promotion of wellness. This is quite different from the traditional medical model. It is proactive rather than reactive, inclusive and accessible rather than the exclusive and privileged domain of a selected few. It does not have a rigidly defined cluster of ideas and skills that everyone must embrace in precisely the same way (Hatfield, 1992). Wellness involves a philosophy of self-respect, self-care and self-development in different ways nurtured and extended in all areas of life. It is an ongoing active process of behaviour and lifestyle choices that will empower individuals to live full, responsible, rewarding lives in a complex world. As some of the definitions also indicate it is a developmental process of balance and integration in one’s life, adding, developing and refining behaviours.

Several disciplines contributed theoretical concepts that explained the “total person” approach towards improvement of quality of life that highlight a wellness approach (Adams, 1997; Myers and Sweeney, 2004). Characteristics of a wellness approach is explained as follows:

- A wellness approach addresses the mental, spiritual and physical aspects of those who come for care.
- Treatment is tailored to each patient’s unique characteristics.
- Health and wellness is a positive state and not merely the absence of illness.
- All individuals are responsible for their own health and wellness and needs therefore be empowered to do so.
- Therapeutic approaches are used to mobilise an individual’s capacity for self-healing.
- Quality of life is to be appreciated, nurtured and developed.
For the purpose of this research study, wellness is defined as a state and developmental process of health and optimal functioning in all domains of life. The intended main contribution of the present research focuses on the fields of positive and organisational psychology and is approached from this perspective. Some important psychological theories relating to wellness are therefore discussed to explain the development of the wellness paradigm more clearly.

### 2.2 THEORIES SUGGESTING WELLNESS

Several psychological theories address the promotion of wellness or to some extent stipulate the way towards wellness. The main psychological theories that constitute wellness in one way or another are that of Adler (1931, 1954), the analytical theory of Jung (1960), the systems theory (Bertalanffy, 1968) and the theories about positive psychology (Antonovsky, 1987; Seligman, 2000; Wissing and Van Eden, 1997). All of these theories might be used to understand the intellectual climate, philosophical foundations and the paradigm perspectives of the research that helped to shape the field of psychological well-being and what today is know as wellness.

#### 2.2.1 Individual Psychology of Adler

The theory of Adler (1931) is relevant due to some of the aims, the structure and the paradigms that are explained regarding the optimalisation of human development, which is important for the objectives of the present research on work wellness. Research by Adler (1917) is important to be acknowledged for its contribution about *wholeness* and *society*. Adler’s theory, and more specifically its application on wellness, is therefore discussed and analysed in more detail.

Adler (1917) founded and established the school of individual psychology stating that psychologists ought to help clients to realise their own potential towards living a life as they see fit. Adler (1917, 1933) established himself as a pacifist, strongly believing in socialist principles and the importance of a
community. This interest seems to have stemmed from the view that an individual is free and responsible, able to contribute to the common good of society. Society was viewed as a broad, here-and-now social context but also somewhat of a utopia, and ideal society lying somewhere in the future (Adler, 1963; Rietveld, 2004). According to Adler (1927) the demands of society are indivisibly bound up with the logic of humanity’s communal life. At the basis of this ideal communal life is the equality of all individuals. Sweeney (1998) agrees that co-operation, responsibility and social democracy promote equality and social interest.

The welfare of both the individual and the group requires a demographic relationship and must be considered in order to promote optimal health. An individual must justify himself or herself as the governing system in society. One cannot avoid the logic of social living, and all humans have to take the rules of society into account as if these were absolute truths (Rietveld, 2004). The viewpoint that a person can only be a person through others and that a person’s existence is relative to society is central to the humanistic paradigm (Jung, 1960; Frankl, 1988).

As Freud saw sexuality as humanity’s driving force, Adler viewed a sense of competence and belonging is the key to happiness (Adler, 1927). The basis of social interest as a human ability is established by means of the desire for affection. Adler (1937) understood this to be the need of the young child to be caressed and cuddled. Belonging is concluded as part of human nature with a strong innate potential for kinship. Each person is born with the natural desire to belong to a group and to contribute to the growth and well-being of that group (Adler, 1927).

The ability to pursue meaningful relationships and contribute to society is not automatic and it has to be consciously developed (Anderson, 2000). Adler (1917) states that every person has the ability to overcome and develop the effects of bad childhood relations and gain mastery in life. Promoting and developing social interest is therefore important in studies of wellness. Creating feelings of belonging and social relationships (sense of community)
at work is equally important as it incorporates the wellness of individuals in the organisation as the community. Creating community and a sense of belonging in social relationships can also be integrated with the self-actualisation theory of Maslow and the human need to be socially connected. Both theories therefore contribute to the importance of strong interpersonal connections as a component of wellness.

According to Adler's (1927, 1937) perceptions humanity always has been a developing, imperfect community on its way to becoming ideal. This ideal directs, challenges and rewards a community while the rules of society elicit punishment. Not contributing to the ideal community therefore leads to dissociated membership of society. Problems in life will persist for those individuals that do not value the regulative ideal or ideal community that provides direction. For Adler (1933) the real wrong, the sin of humanity, is the lack of social interest. In spite of the optimistic and hopeful portrayal of humanity these individuals will therefore face illness and disconnectedness from the ideal society. The weakness of Adler’s theory lies in this fact that all individuals are not necessarily motivated by feelings of society (Rietveld, 2004). Jung's theory (1960) also supports the fact that some individuals have a stronger preference towards community compared to others. However the fact still remains that if individuals rebel against the commonly accepted rules of society, their failure to constructively contributing to society will result in a downward spiral towards illness and disassociation.

Adler (1927) invented the notions of inferiority complex and overcompensation as building blocks of Adlerian theory. This researcher introduced the concept of organ inferiority which, when present, suppressed a person’s self-esteem, thus leading to a sense of weakness and inadequacy. Any tendencies to safeguard oneself are seen as reactions of feelings of inferiority that are intended to protect an individual's self-esteem and self-worth (Sperry, 1997). These findings reflect Individual Psychology’s belief that striving for superiority and discouragement brings about maladaptive behaviour. Discouragement is typical for individuals that do not have the courage or ability to meet challenges posed by of general life tasks (Weber, 2003). On the other hand
self-worth is viewed as an individual’s ability to address life tasks through constructive functioning. An outcome of psychological intervention is the establishment of a trusting and collaborative relationship in which the client can explore problems (Sperry, 1997; Sweeney, 1998). Adler’s therapeutic process was intended to help patients overcome their feelings of inferiority by enabling them to become more hopeful, to feel less isolated and to have an improved sense of belonging to society (Hoffmann, 1991). Patients had to realise their strengths and abilities in order to develop a belief in their own dignity and worth, they had to change their perceptions, beliefs and goals about individuals, especially about themselves. Purposive living, together with a set of manageable objectives, drives the behaviour of a person towards superiority and one’s social interest towards the perfect self (Adler, 1937). This implies that if patients can understand and deal with illnesses, they can transform it towards normality, health or even wellness.

Individual psychology assumes that a person functions as a whole; the need for superiority drives all behaviour by means of self-imposed objectives and thus one’s purpose in life is a creative process. The need for superiority lies at the root of all solutions to life’s problems and is manifested in the way in which one handles these problems (Adler, 1927, 1931). All human functions strive for conquest, security, increase and self-preservation. The urges from illness to health to wellness never cease and its ambiguous attempt to express a positive and improved drive (spiral) always exists. The implication is that perfection is driven by those times when one was dissatisfied with the capabilities or talents and actively tried to transcend them to a higher level of functioning.

Striving for superiority and perfection is generic to all humans and its origin lies in an awareness of weakness and inferiority (immaturity). The need for superiority lies at the root of all solutions to life’s problems and is manifested in the way in which one handles these problems (Adler, 1927, 1931). The highest level of superiority is realised by having a social interest or a feeling towards the good of other people (Adler, 1938). Such interest in others is viewed as insight that consciously must be developed and is an action that
requires support from as well as co-operation and unity with others. The concepts of religion and God are strongly connected to the concept of social interest and the striving for perfection. God is for Adler, an idea of perfection and the most common objective to achieve completeness or wholeness (Adler, 1917, 1933). All human functions strive towards conquest, security and self-preservation. Urges ranging from illness to health to wellness never cease and this ambiguous attempt to express a positive and improved drive (upward spiral) always exists. The implication is that a person’s pursuit of perfection is driven by times when one is dissatisfied with one’s capabilities or talents compelling the individual to act in an attempt to transcend to a higher level of functioning.

Striving towards the ideal in the future is a way of putting perfection into practice in everyday life (Rietveld, 2004). Having faith in God is one source of power available to humans to perform their duties of life. Self-actualisation therefore is seen as the positive attainment of a unique identity and a striving for significance and greater meaning. In practice it means that the level of social interest is expressed in one’s identification with one’s family, friends and the community (Freeman & Urschel, 1997). Parallel to this social identity develop greater states of self-actualisation. Social and self-actualisation can also be assessed by a person’s outward focus (towards others) rather than his or her inward focus (towards the self).

In his writings, Adler (1933, 1938) described the characteristics of the optimal or perfect person as being honest, genuine, patient, helpful, expressing humour, accepting and being considerate of others. Optimism, altruism and insight into others are typical behavioural examples of people living a constructive lifestyle. Their social interest, expressed in empathy, environmental care and a better life for others is also well developed. Adler (1963) realised that genetic potential, physiological factors and social circumstances only served as contexts in which one could reach set objectives. An individual can assess a situation, set objectives and create action steps towards achieving a better lifestyle. Therefore a person that is psychologically well realises superiority, serves others and enjoys a
constructive and unique lifestyle (Adler, 1931). The theory of Adler and individual psychology are concerned with the promotion of wellness. This theory can be used as part of wellness studies by representing the global paradigm. It is supportive of the fact that an individual that functions as a whole in a bigger context is in fact a total system. Adler’s theory also maintains that an individual’s ability to address the life tasks of spirituality, self-direction, work, friendship, and love with social interest is a sign of mental health. Development towards superiority and social interest gives rise to and develops purpose in one’s life. It is an active process of self-management towards a better life for oneself and others.

The individual psychology of Adler (1927, 1931) can be applied to understand the intellectual climate for studies on wellness. The paradigm perspective of this theory provides the conceptual framework to develop wellness models. Adler’s theory also conceptualises and supports the Indivisible Self, wellness model of Myers and Sweeney (2004). It is therefore used in the present research about a work-wellness model.

2.2.2 Analytical Theory of Jung

The analytical theory of Jung also has some philosophical foundations for wellness studies. Jung (1941) is in agreement with Freud about the fact that history to some extent will determine behaviour. Jung (1976) elaborates on this theory by stating that spirituality and future perspectives also have a role to play. It is useful to understand the analytical theory of Jung regarding humanness, its development strategies and its applications in the present wellness research.

Carl Jung (1975) explains that the psyche is a complex system of integrated components that function as opposing poles. This theory refers to psychological health as a total system striving for individualism as the highest level of development. Humans are directed towards continuous creative development in the pursuit toward an optimal self and also need to realise their religious and spiritual needs (Meyer, Moore and Viljoen, 1988).
The analytical theory of Jung (1976) aims at uncovering the complexity of the human psyche. Behavioural understanding lies in the contextual references of the past and the potential of the future. Humanness is described as divided units or dimensions that continuously seek wholeness. Striving toward the integration of a harmonious unit will define the individualistic self. Jung (1941, 1963, 1971) differentiated among the following dimensions:

- The *physical* dimension that incorporates the processes of hunger, thirst, and sex as dimensions of self-preservation.
- The *social* dimension that incorporates interaction with others.
- The *spiritual or religious* dimension that depends on and is superior to all irrational experiences.
- The *psychic* dimension that refers to all the conscious processes that can be understood by logic and reasoning. The psychic consists of the conscious, personal unconscious and the collective unconscious.
  - The *conscious* is viewed as the core of all behavioural and functional processes like sensations, observations, thoughts, assessments, and memory. Internal functioning stimulates personal awareness that establishes identity over a period of time.
  - The *personal unconscious* incorporates all individual experiences, interactions and its individualistic interpretations that are suppressed, ignored, forgotten or denied. Clusters of similar feelings, thoughts, or ideas that are connected to emotional intensity, form a complex or an instinct in the unconscious, where it remains.
  - The *collective unconscious* or sometimes referred to it as the *transpersonal unconscious* represents the inherited experiences of previous generations. It consists of inherited impulses and archetypes that determine behaviour, in which conscious motivation plays no part. Archetypes are considered to be inborn psychological predispositions that determine how a person will observe, understand and experience the world and consist of...
the persona, anima and animus, the shadow, the self, attitudes and functions (Jung, 1963, Hall & Linzey, 1970).

- The **persona** develops out of the role that the person plays in society and represents the public self. It acts sometimes as a facade to protect the real self.
- The **anima** and **animus** represent Jung’s view that both genders possess physiological and psychological characteristics of that are typical to the opposing gender. The anima represents the unconscious female archetypes (emotional) in males and the animus the unconscious male archetypes (logic) in females.
- The **self** forms the core of the personality and has a mediating and transcending role.
- **Attributes and orientations** are defined as extroversion (towards other and the external world) or introversion (orientated towards subjective internal processes).
- **Functions** further support the personality and might include thoughts, feelings, senses or intuition. One functions is dominant while all others are unconscious.

Psychological imbalance exists if one attribute or function overdevelops in the conscious and the harmony and synergy of the personality development are limited. Jung (1971) referred to the process of synergy between the opposing subsystems as transcending. Realising the projection of impulsive needs and unconscious emotions (the **shadow**) leads to self-awareness that supports individual growth and maturity. Self-awareness develops self-insight that in turn develops self-mastery. Individualism develops from being aware of and from learning the functions of the other archetypes. This process is viewed as the birth of independence and is linked to internal control. The transcending process of external facades (public self) towards internally self-focus and connection to the core self give guidance to optimal development. Individualism therefore realises when the public self (persona) refers inward or transcends to the private self, and causes harmony and integration
between the subsystems. This outer-inner-directed adoption and individuation process can be applied to the development process of wellness (Jung, 1941). Jung’s theory acknowledges the fact that a total system exists and that spirituality is the most important dimension of it. Although Jung did not actually research wellness in totality some of the theoretical constructs and the theory in general do apply to the field of wellness (Witmer & Sweeney, 1992). It is also reflected in Jung’s approach and structure towards humanness. Behaviours of an individualised person are also reflected in the acceptance of others as unique and equal individuals, which correlates well with the social self of wellness (Myers & Sweeney, 2005).

Individuals consist of different units that strive towards systemic wholeness. Jung (1971) also suggested that the reduction of internal or unconscious conflicts could promote individualism (wellness). Realising autonomy serves as the development process of the potential and uniqueness of the individual. Jung (1960) described the optimal development of individuals as a natural and continuous process of becoming autonomous. Els (1999) proved that autonomy, self-knowledge and interpersonal awareness also develops during the process of stimulating internal locus of control.

2.2.3 Systems Theory

The systems theory, within the humanistic paradigm could be used for studies that have specific application in work wellness. For the purpose of this study it is important to discuss the basic concepts of the systems theory and how its foundations compliment ones understanding of holistic wellness.

Some social scientists (Jasnoski & Schwartz, 1985; Seeman, 1989) have proposed comprehensive models of health incorporating the principles of systems theory. The systems theory is based on the research of Ludwig von Bertalanffy (1968) a biologist who defined a system as a whole, comprising subparts, whose unique properties emerge from the interaction of these interdependent subparts. General systems theory (Bertalanffy, 1968) is a theoretical structure used to explain the comprehensive and complex
interaction process. Specific system properties, such as cybernetics and emergence, provide a more detailed understanding of the systems theory (Crose, et al., 1992).

The systems theory was developed as criticism against absolutely individualistic focused theories. Assumptions from individual psychotherapy that focused only on individual growth were criticised. Later developments such as incorporating the impact and the interaction of the family on the individual and vice versa, led to the development of family therapy. Wellness psychology emphasises the importance of viewing the individual as a system composed of various subpersonalities or parts (Adams, Bezner and Steinhardt, 1997). Wellness studies also acknowledge the fact that an individual is in constant interaction with the greater contextual environment, involving another system.

Schwartz (1995) defined a system as any entity whose parts relate to each other in a definite pattern. Whenever the core leads, parts develop and relate to one another in a harmonious pattern.

Assumptions of the systems theory are based on the fact that people are whole units. The psychological state of an individual cannot be separated from emotional, social or cultural contexts (Rothmann, 1996). Humans possess all the resources that they need to manage their own wellness. The role of the therapist is to make the client aware of the resources at hand. The client will visit the therapist for support in resolving specific problems.

These comments underline the view that intra-psychic problems or stimulus-response conditioning that goes wrong causes dysfunction. To further understand the systems theory and its application to the illness-health-wellness continuum, knowledge about what follows is important (Barker, 1986; Corsini & Wedding, 1989; Fennel & Weinhold, 1989):

- Systems are either open or closed. Closed systems have no interaction with the external environment and aim for entropy, implying that these
closed systems will strive towards self-reduction by reaching equilibrium when entropy is reached. An open system does not experience entropy. Families, as an example, have a constant inflow and outflow of parts across boundaries. If the boundaries and the external environment stay the same the system reaches a steady state.

- The human system consists of subsystems, which in turn consist of other subsystems. If all of these subsystems interact and contribute to the health of the bigger system, a healthy individual results from its functionality.

- Individuals are part of bigger systems like social groups, which are part of even bigger systems, which are part of supra-systems.

- All systems are interrelated. If something changes in one system it will influence the status of other interrelated systems. System theorists realise that the individual is the centre of dysfunction but also acknowledges the fact that other individuals in the system can functionally influence the behaviour of its members.

- An understanding that all members in a system contribute in sustaining problems within a group is the key to resolving problems where they are present. A circular rather than a linear causal understanding is required to promote total systemic wellness.

- When all members of the system adhere to the rules and consequently act within its role, equilibrium will result. The drive towards reaching equilibrium originates from the fact that living systems are self-organising. If one subsystem or more derails the purpose of the system, other subsystems will compensate to sustain norms that strive to maintain the balance. This highlights the fact that all subsystems are equal in importance and need to adhere to the expectations when equilibrium is achieved. Change can still be introduced or stimulated despite the fact that balance does exist in the system.

- Boundaries between the systems or subsystems regulate and control the flow of information across them, ensuring effective communication.
Symptoms of one subsystem need to be understood and addressed within the context of interaction with other subsystems. Treatment is aimed at the dysfunctional interaction between individual components rather than only focusing on the character flaws within one particular member.

Harari and Waehler (2005) use the theoretical background of systems theory in their study to explain self-leadership and wellness. These researchers indicate that the internal family systems model is useful to understand the resourcefulness of humans to self-correct. Humans (as a system) have a drive toward, and wisdom regarding their own health, and they react to feedback to maintain a range of homeostasis. In addition, human systems strive toward creativity and intimacy (Schwartz, 1995). Because human beings are born with the capacity to lead harmonious internal and external lives, psychology needs to help individuals find and release those constrains that block access to their inner resources and wisdom. When individuals tap into these inner resources, they enhance their internal systems, causing movement towards more effective interactions with their external environments and, ultimately, towards total wellness. When the individual system functions well (i.e. when the parts are relating harmoniously) the individual parts still exist, each with its own identity, but they are so co-ordinated in that they function as a unit.

Sickness or dysfunction on the other hand is rather viewed as the result of disruptive communication and interaction patterns (Cavalieri, 1986). If an individual develops within a constraining environment, the internal system is more likely to reflect the unbalanced and polarised system in which it is embedded (Harari and Waehler, 2005). Constraints come from a variety of sources including trauma, legacy as well as tangible and developmental burdens. Any of these constraints can create polarisation among internal parts (exiles, managers and fire fighters). In a polarised system individual feels fragmented and parts are fighting with each another rather than working together.
The systems theory can be applied to and included in research studies about wellness. Bearing in mind the systems theory, it might be argued that the wellness of the individual interacts with (or depend on) the bigger context in which the person functions. It implies that one dimension or subsystem(s) of the individual, like work for instance, interacts with all other dimensions like the physical or emotional ones in its functioning (Adams, Bezner and Steinhardt, 1997). This means that individual wellness needs to be approached from a holistic and systemic view. The flow of information between subsystem(s) binds them together as a unit and defines the unit’s efficacy or dysfunction.

This research about work wellness therefore incorporates the philosophical foundation of the systems theory. It makes researchers aware of the fact that wellness should incorporate all dimensions of humanness within the bigger contextual system. In the present study is wellness researched in an organisational context that implies the influence of other systems as well. Working groups, role design, leadership, production and ergonomics are only some examples to be considered as part of a working context and a holistic system.

What is lacking in the systems theory is that it does not define the subsystems of individuals as Jung (1960) did with the dimensions of humanness. Therefore it cannot be used as an absolute theory to study the individual psyche in relation to wellness. To remediate and only focus on the communication patterns between the subsystems is in effect a non-systemic (fragmented) approach to intervention. Systems theory lacks an integrated approach to growth and development in individuals that are seeking help. Furthermore it does not stipulate the contexts in which individuals flourish. Systems theory is very useful to understand and define the interrelated nature of wellness and its sub-dimensions.
2.2.4 Positive Psychology and Psychofortology

Although the most recent developments in the field of positive psychology are coined and promoted by Martin Seligman, the paradigm of human strengths have been the topic of research for a long time. As part of this movement wellness theories have their philosophical underpinnings in the salutogenesis paradigm. The first research perspectives of the salutogenic paradigm can be traced back to the work of Antonovsky (1979, 1987).

Being the creator or pioneer of salutogenesis (Latin salus = health combined with Greek genesis = to produce) meaning the origins of health, this researcher proposed the study of (physical) health instead of disease. Experiencing the “Six Day War” as a traumatic life event, this sociologist was amazed to find that this trauma had either an immediate or delayed impact on the health of its victims (Coetzee, 2004). Antonovsky (1974) realised that there must be something, in experiencing disaster that might hold the development of pathological responses in check. Despite being bombarded by many stressors and undergoing severe traumatic experiences, some individuals coped well and stayed healthy. This stimulated Antonovsky (1987) to investigate what is called the general resistance resources that help to make sense of countless stressors. This can be any physical, biochemical, cognitive, emotional, value-adding, interpersonal and macro-socio-cultural attribute of individuals, sub-cultures or society that help with effectively coping with a wide variety of stressors (Antonovsky, 1974). Theory assumes that stress producing experiences are ubiquitous and that individuals have access to an array of resistance resources enabling them to cope with stress resulting in undue harm (Antonovsky, 1994; Coetzee, 2004, Strümpfer, 2002).

Contrary to the traditional medical view, that there is a fundamental dichotomy namely healthy and sick individuals, Antonovsky thought of it in terms of a continuum of dis-ease/health-ease. The approach then was to search for factors that promoted movement toward the healthy end of the continuum. It is a disposition that presumes to engender, sustain and enhance health as well
as strength, at other endpoints. This particular orientation to the origin of health rests on three proposals, namely that:

- People are not either diseased or healthy, but they fall somewhere on a dis-ease/health-ease continuum.
- Stressors are not necessarily inherently bad and they may have salutary consequences or even be healthy to the individual if managed constructively.
- One should view the deviant case (such as some smokers that do not develop lung cancer).

In explaining how people stay healthy, Antonovsky (1979) identified generalised resistance resources that help individuals to manage tension in any situation of demand. Generalised resistance resources help individuals in making sense of the countless number of stressors that they experience every day (Coetzee, 2004). It is through repeated experiences of making sense that individuals develop a strong sense of coherence. Strümpfer (1990) delineates this construct as an individual orientation that is presumed to engender, sustain and enhance health and strengths. It is described, as a coping resource that is presumed to mitigate life stress by affecting the overall quality of one’s cognitive and emotional appraisal of the stimuli that impact on one. Lots of other researchers introduced constructs in support of the development of sense of coherence and salutogenic orientation. A few examples are locus of control (Rotter, 1966); self-efficacy (Bandura, 1977); potency (BenSira, 1985); hardiness (Kobasa, 1979); stamina (Thomas, 1981; Colerick, 1985) and learned resourcefulness (Rosenbaum, 1988).

Strümpfer (1995), following the lead of Antonovsky, argues that the paradigm should be extended from an emphasis on health only, to also focus on the strengths of human beings. It is being proposed that the paradigm be broadened to include sources of strength and that this approach is named fortigenesis (Latin fortis = strong and genesis = to produce). This move defined the origins of strengths as a more embracing and holistic view to
study positive human behaviour than only focusing on the physical health of individuals. According to Strümpfer (2002) other fortological constructs that ought to be included into this paradigm are as follows:

- The concept of *hardy personality* developed by Kobasa (1979, 1982; Ouellette, 1993) was the first of the more recent fortigenic constructs that stimulate research for others by using the Hardiness Scale (Sinclair & Tetrick, 2000; Strümpfer, 1990).
- Taylor and Brown (1988) introduced the concept of *positive illusions*. They implied that in the absence of threat, normal human perception reveals evidence of modest degrees of self-aggrandisement, an illusion of control and unrealistic optimism. These positive illusions are challenged by threatening events, which result in efforts to restore or enhance them, including a variety of social psychological mechanisms, such as effective coping.
- Epstein’s *constructive thinking* is independent of intelligence but associated with all major non-intellectual aspects like success in work, love, social relationships, and in achieving emotional and physical well-being (Epstein & Meier, 1989).
- *Resilience* in adults is Strümpfer’s own application in the domain of fortology (Strümpfer, 2001, 2002). Resilience is defined as a pattern of psychological activity that consists of a motive to be strong in the face of inordinate demands, the goal directing behaviour of coping and rebounding (or resiling), accompanied by cognitions and emotions.

Wissing and Van Eden (1997) commented on the application of fortology to be used in psychology and named it psychofortology, the science of psychological strengths. Within this “old-new” domain a better understanding of psychological well-being is achieved. These researchers also contended as well as the origins of psychological well-being, but also the nature, manifestations and consequently the ways to enhance well-being need to be studied. This will point to new directions for capacity building, prevention and
enhancement of the quality of life of individuals, in both their private and working lives (Cilliers & Coetzee, 2003, Strümpfer, 2002).

While psychofortology was established in South Africa the movement of positive psychology was developed and driven by Martin Seligman in the United States of America. With the turn of the millennium and entire edition of the American Psychologist was published on “Happiness, Excellence and Optimal Functioning”. Seligman and Csikszentmihalyi (2000) stated the following in the introduction to this edition:

“The next century will see a science and profession that will come to understand and build the factors that allow individuals, communities and societies to flourish”.

The science of positive psychology contributes to the enhancement of the quality of life of normal people, or of people who live under relatively normal circumstances, but also to the lives of people suffering, by consciously recognising, respecting and helping them with their pain and sadness. Furthermore, it enhances people’s lives by identifying those marvellous strengths people have, and by amplifying and nurturing these so that their strengths can help them to buffer and protect them in difficult times. Seligman and Csikszentmihalyi (2000) add in this regard that the most serious behavioural problems like substance abuse and violence can not be prevented by working from the pathogenic paradigm or medical model alone. They are of the opinion that major strides in prevention will be made from the intervention of systematically building competence, rather than only trying to correct weaknesses.

Since the introduction of positive psychology as a study field many publications contributed to the drive towards researching the strengths and well-being of individuals. Numerous publications and research projects suggest emotional, cognitive, self-based, interpersonal and biological studies with the positive paradigm as a point of departure.
Positive psychology and psychofortology are considered as relevant to the study field of wellness. It is considered as part of the philosophical foundation and empirical application about wellness because of the constructs that are researched in the field of positive psychology.

All the other theories that are mentioned (Adler, 1927; Jung; 1960; Frankl, 1988; Bertalanffy, 1968; Seligman and Csikszentmihalyi, 2000; Strümpfer, 2002) can be used as a point of departure to study psychological well-being and more specifically wellness. Therefore these theories can all be applied in one way or another to understand the intellectual climate and theoretical basis of research about wellness models. Some wellness models are derived from these theories and will be discussed hereafter.

2.3 WELLNESS MODELS

From the individualistic theory of Adler The Indivisible Self: An Evidence Based Model of Wellness was constructed. The systems theory and the salutogenic orientation served as a philosophical basis for the development of the Perceived Wellness Model. Both models are discussed.

2.3.1 Perceived Wellness Model

Perceived wellness is a multidimensional, salutogenic construct, which is conceptualised, measured and interpreted as being consistent with an integrated systems view (Adams, Benzer and Steinhardt, 1997). This innovative model attempts to include the balance of multiple life activities in its evaluation of well-being (Dolbier, Soderstrom and Steinhardt, 2001). It is therefore important to discuss the Perceived Wellness Model as well as the Perceived Wellness Survey that accompanies it.

The Perceived Wellness Model was initially presented as a multi-faceted measure of perceived health (Adams et al., 1997). With the integration of several components of perceived wellness and simultaneously accounting for
the magnitude of each and the balance among them, it qualifies as a conceptualisation and operationalisation of wellness.

The model and corresponding measure that Troy Adams presents is based on the patient’s own perceptions of wellness (Adams et al., 2000). Because most wellness measures address clinical, physiological or behavioural manifestations of disease or risk factors for disease, the Perceived Wellness Model and Survey is unique. The focus on perceptions is important for the following reasons:

- Very strong and consistent data indicate that subjective perceptions are valid indicators of future objective health.
- Perceptions serve as a filter through which information or stimuli must pass before they are interpreted (basis of cognitive restructuring).
- It precedes physical responses and behaviours and is recognised at the core of several health theories and models.
- Perceptions act as an internal resource and driving force.

The apex of the model represents wellness because it is expanded to the fullest possible extent, whereas the tightly constricted bottom represents illness (Adams, et al., 2000). In this model, people that are well by definition are described as more physically healthy, having a greater sense of meaning and purpose in life, expecting that positive things will occur in their life no matter what the circumstances, being more connected with family and friends, being more secure and happy about who they are, and being intellectually vibrant.

Illness, on the other hand, is not so much a state of physiological disease as it is a perception of disconnection, poor self-esteem, poor physical health, pessimism, external frustration, lack of intellectual stimulation, or any combination of these (Adams, et al., 1998).
Innumerable fluctuations in each of the dimensions, with varying states of balance among them, occur between the illness and wellness poles of the model (see Figure 2.1 below). Thus suggests movement between wellness and illness poles of the continuum, along the vertical scale as well as balance-seeking movement in the horizontal scale.

**Figure 2.1 – Perceived Wellness Model**

The different dimensions incorporated in a holistic human approach to wellness are defined by Adams, Benzer and Steinhardt (1997) as follows:
• **Spirituality** is defined as a positive sense of meaning and purpose in life. Spiritually well individuals have adopted and live according to an internal set of principles or values. They are committed to a cause or purpose, have developed a sense of ethical behaviour and see meaning in the world. Research measured by the existential well-being scale has demonstrated negative associations with loneliness, depression and positive associations with self-esteem, togetherness, social skills, coping beliefs and connectedness.

• **Physical resilience** is the positive perception and expectation of physical health. People with physical wellness possess greater functional proficiency for activities requiring health. They make healthier behavioural decisions about their own health, physically feel healthier and have a more positive physical self-image. Individuals with poor perceived health, have a risk of mortality three times greater than subjects with good perceived health (Adams, Benzer and Steinhardt, 1997). Good perceived health has also been positively associated with higher levels of physical activity and negatively associated with musculoskeletal symptoms and diseases.

• **Social connectedness** is described as the person’s perception of having support available from family or friends and the perception of being a valued support provider. Such a person values social harmony and equality, exhibits positive behavioural attributes such as tolerance, forgiveness, gratitude and generosity towards others and feels a sense of worth and adequacy about roles within the family and in society. Social support has been positively correlated with physical and psychological well-being and overall life satisfaction but negatively correlated with distress symptoms and psychopathology.
• **Psychological optimism** is the perception that people will experience positive outcomes for events and circumstances of their lives. These people can be expected to be more coherent, be more resilient, sense a greater control over the course of their lives, be more optimistic, and expect better physical and mental health. Optimism was also positively correlated with hardiness, general well-being and happiness. It was negatively associated with anxiety and other measures of distress (Adams, Benzer and Steinhartd, 1997).

• **Intellectual stimulation** is defined as being internally energised by an optimal amount of intellectually stimulating activity. People feel more involved with communication processes that jobs demand, they value competence and effective cognitive functioning, and are more satisfied and experience less stress in their work. It is also apparent that intellectual overload and underload adversely affect physical health. Moderate amounts of intellectually enriching activities are thus, optimal.

• **Emotional centeredness** reflects the perception of secure self-identity and a positive sense of self-regard. These individuals exhibit an ability to perform without reassurance or approval of others, from a clear picture of their core identity, have a sense of personal adequacy and self-satisfaction and they express higher levels of global self-esteem. A person with a sense of self-identity tends to develop a higher self-regard and is better capable of meaningfully interpreting discrepant information.

The multi-dimensional nature of the Perceived Wellness Model suggests that perceptions of wellness in various dimensions are intertwined by their affective nature, constituting a system of wellness. In relation with the Perceived Wellness Model the Perceived Wellness Survey (PWS) intends to operationalise the comprehensive six dimensions of perceived wellness.
(Adams, et al., 1997). Each independent variable seems to be aligned primarily with one of the six PWS subscales and the balance among them (Adams, et al., 1998).

In the initial study, the PWS demonstrated evidence of total scale internal consistency in separate samples ($\alpha = 0.88$ to 0.93). Principal-axis factor analysis supported the underlying perceptual nature of the scale and an estimate of face validity was statistically significant ($p = 0.05$), suggesting that the PWS is a valid and reliable measure of perceived wellness (Adams, et al., 1997). The internal consistency reliability coefficient was 0.92.

In the following year Adams, Bezner and Garner (1998) studied the construct validation of the PWS and found strong support from the fact that the highest and lowest perceived wellness groups were significantly different. Temporal stability estimates ranged from $r = 0.73$ to $r = 0.81$ in the student sample, indicating that the PWS was proven to be a reasonably stable measuring instrument (Harari, & Waehler, 2005).

As it has been indicated earlier both the Perceived Wellness Model and the Perceived Wellness Survey can be used in wellness research. This model and measure adheres to the criteria and standards that add value to wellness research and are already widely used in the market. The Perceived Wellness Survey is a salutogenically orientated and provides multidimensional measures of perceived wellness perceptions in the physical, spiritual, psychological, social, emotional and intellectual dimensions. Both the model and the survey can be used in studies about wellness.

2.3.2 The Indivisible Self: an Evidence-Based Model of Wellness

The Indivisible Self: an Evidence-Based Model of Wellness (IS-WEL) is best suited for the present study. Since the theory and model developed by Sweeney and Myers (2004) already incorporate holistic wellness perspectives it best qualifies for the application of the present wellness research.
Sweeney and Witmer (1991) and Witmer and Sweeney (1992) developed the original Wheel of Wellness model based on Adler’s Individual Psychology. Following an extensive review of theory and research across disciplines, they identified a number of characteristics that correlated positively with healthy living, quality of life and longevity (Adler, 1954; Sweeney, 1998). The characteristics were identified as organised work, friendship and love as the three major life tasks as well as the two additional tasks of the self and spiritual (Mosak & Dreikurs, 1967). Surrounding the individual inside the Wheel are life forces that impact personal wellness: family, religion, education, business/industry, media, government and community. Later on this model evolved and led to what are used now known as The Indivisible Self: an Evidence Based Model of Wellness.

The Indivisible Self: an Evidence-Based Model of Wellness (IS-WEL) and the 5-Factor Wellness Inventory were created as an alternative and revised version of the Wellness Evaluation of Lifestyle Inventory (Myers, Sweeney & Witmer, 1998; Myers & Sweeney, 2005). This updated wellness model (IS-WEL) was designed to assess characteristics of wellness as a basis for helping individuals make choices towards healthier living. This model as well as the underlying supporting constructs that enrich its usage for a work-wellness model is described in more detail.

The IS-WEL model is based on confirmation of a single higher-order wellness factor, five second-order factors, and 17 third-order factors representing the original areas of wellness. These areas within the five-second order factors are as follows (Myers & Sweeney, 2005):

- Creative Self (intelligence, control, emotions, work, positive humour).
- Coping Self (leisure, stress management, self-worth, realistic beliefs).
- Social Self (friendship, love).
- Physical Self (nutrition, exercise).
- Essential Self (spirituality, gender identity, culture identity, self-care).
This model – and its application – is also fundamentally ecological and include factors such as:

- Local Safety (family, neighbourhood, community).
- Institutional – policies and laws (education, religion, government, business/industry).
- Global – world events (politics, culture, global events, environment, media).
- Chronometrical – life span (perpetual, positive, purposeful).

Figure 2.2 – The Indivisible Self: an Evidence-Based Model of Wellness

CONTENTS:
Local
Institutional
Global
Chronometrical

This philosophy provides a structure for making sense of studies in which wellness emerged both as a higher order and seemingly indivisible factor and as identifiable sub factors as was originally hypothesised by Sweeney and Witmer (1991). Relationships among the higher-order wellness factor, five second-order factors and the seventeen sub factors are described as an evidence-based model by Myers and Sweeney (2004).
The higher-order wellness factor. Adler (1954) proposed that holism (the indivisible self) and purposefulness are central to understanding human behaviour. Such understanding required an emphasis of the whole rather than the divided elements, interaction between the whole and the parts, and the importance of the social context (Ansbacher and Ansbacher, 1967). The higher-order wellness factor therefore indicates the total wellness of the individual system.

Essential Self comprises spirituality, self-care, gender identity and cultural identity.

- **Spirituality** but not necessarily religion, has benefits for longevity and quality of life and is viewed as central to holism and wellness (Mansager, 2000). It incorporates one’s existential sense of meaning, purpose and hopefulness toward life. This construct is supported by the theory of Victor Frankl (1988) that highlights the importance of and search for meaning in life.

- **Self-care** includes proactive efforts to live long and well. Conversely, carelessness, disregard for health-promoting habits and general ignorance of one’s well-being are potential signs of the presence of despair, hopelessness, and alienation from life’s opportunities that is reflected in a lost sense of meaning and in life.

- **Gender and cultural identity** are conceptualised as filters through which life experiences are viewed. Identity also drives our influences upon others as they are experienced in response to oneself. Both affect the meaning-making process in relation to life, self and others. It is something similar or related to Antonovsky’s (1974) sense of coherence.

Creative Self is seen as a combination of attributes that individuals develop to determine a unique place for the self among others in social interactions (Adler, 1954; Ansbacher and Ansbacher, 1956). Thoughts, emotions, control, work and positive humour make up the creative self. As research and clinical
experience indicate, what the individual thinks affects the emotions as well as the body. Likewise, one’s emotional experiences tend to influence one’s cognitive responses to similar experiences.

- **Control** as explained by Myers and Sweeney (2004; 2005) is a matter of perceived capacity to influence events in one’s life.
- **Positive humour** is known to influence physical and mental functioning. Enriching one’s ability to think clearly, perceive accurately and respond appropriately can decrease stress and enhance the humour response that affects the immune system positively (Bennett, 1998). Positive expectations influence emotions, behaviour and the anticipated outcomes of individuals.
- **Work**, and the meaning thereof, is proven to be an indivisible factor to construct individual wellness. It is an essential element in human experience that can enhance or lower one’s capacity to live life fully. Seligman (2002) writes about the difference in attributes that work has to individuals. Work orientation styles towards once job (in it for the money), a career (in it for the status) or as a calling (in it for the benefit of something bigger than the self) are separated. Seligman highlights the fact that calling orientations can develop and promote one’s purpose, happiness and wellness in life.

**Coping self** is made up of realistic beliefs, stress management, self-worth and leisure.

- **Realistic beliefs** and being in contact with reality support the fact that a person can function in the moment of events as they happen. Irrational beliefs, on the other hand, can be the source of many frustrations and disappointments in the lives of individuals.
- **Self-worth** can be enhanced through effective coping with life’s challenges. As self-efficacy is experienced through experiences of success, self-worth increases as well.
• **Stress management** indicates a person’s ability to effectively handle stress in life by having constructive coping strategies. Being resilient do also form some part of it.

• **Leisure** serves as a coping strategy and is essential to the concept of wellness and continual development. It opens pathways for growth in both creative and spiritual dimensions especially if the experience of flow or engagement accompanies it. When this happens the elements of the coping self help to transcend the negative effects of life.

The **Social self** includes two components namely friendship and love.

• **Friendship and love** can be conceived of as existing on a continuum and as a consequence, but are not always clearly distinguishable in practice. Sexual intimacy is sometimes thought to be a distinction between love and friendship but no such distinction seems appropriate as physical attraction and true love can sometimes (or often) have little in common. What is clear, however, is that friendships and intimate relationships do enhance the quality and length of one’s life. Isolation, alienation and separation from others generally are associated with poor health conditions and greater susceptibility to premature death. Numerous studies found that social support remains one of the strongest predictors of positive mental health over once lifespan (Ulione, 1996). The mainstay of this support is the family, with healthier families providing the most positive source of social wellness. The families can be either biological or families of choice.

The **Physical self** includes two components.

• **Exercise and nutrition** are widely promoted and unfortunately often over-emphasised to the exclusion of other components of holistic wellness. The research by Bernaducci and Owens (1996) indicate that individuals that do attend to their nutrition, diet and physical self live longer.
The importance of contextual variables in understanding human behaviour has been well established by the research efforts of Gladding (2002) as well as Nichols and Schwartz (2001). A complete understanding of the individual cannot be made without incorporating a concern for environmental factors, which always can operate for better or for worse in relation to individual wellness. The indivisible self is both affected by, and has an effect on the context that it operates in. As presented in Figure 2.2 above it is defined as the contexts of local, institutional, chronometrical and global factors.

- **Local** contexts correspond closely to Bronfenbrenner’s (1999) micro-system. It includes interactions with, and the central influences of those systems in which people most often live in, like their families, neighbourhoods and communities.

- **Institutional** contexts include education, religion, government, business, industry and the media are the same as Bronfenbrenner’s (1999) macro-system. These contextual interactions affect people’s lives both in direct and indirect ways. Often the influence is powerful, difficult to assimilate and again may be positive or negative.

- **Global** contexts include politics, culture, global events, and the environment and are made more salient and personal through the influence of the media.

- **Chronometrical** contexts reflect the recognition that people over time change in important ways. Wellness involves the acute and chronic effects of lifestyle behaviours and choices throughout an individual’s lifespan (Myers, Sweeney and Witmer, 2001). Wellness choices made early in life exert a cumulative positive effect as individuals grow older and similarly unhealthy lifestyle choices have a negative effect that intensifies with aging. Consistent with Adlerian theory and research on wellness, movement in time dimension is seen as perpetual, of necessity, positive and purposeful if high-level wellness is to be achieved.
Consistent with other theories, models and constructs, the components of the IS-WEL model interact with and are supported by all the factors and constructs that contribute to holistic functioning (Myers and Sweeney, 2004). Similarly, the contextual factors all have an impact on the individual, and the individual in turn influences or impacts on the context. These interactions may be spinning in a positive or a negative spiral that determines the wellness of the individual and/or the collective. Sound knowledge about wellness can be used to overcome deficiencies and negative forces that act to depress, demean, or deny the uniqueness and significance of each individual life.

The IS-WEL model is useful to counsellors for conceptualising individual functioning and planning appropriate interventions based on client needs. The significance of this wellness model lies in a positive, holistic orientation by which strengths in any of the components can be mobilised to enhance functioning in other areas. The integrated and holistic structure of the IS-WEL can be used to develop a work-wellness model.

2.4 CHAPTER SUMMARY

In this chapter wellness is defined as the opposite of illness on the health continuum. The important theories (Adler, Jung, Systems theory and Positive Psychology) were discussed to indicate the intellectual climate that defines wellness research.

The Perceived Wellness model of Adams as a systemic salutogenic model for wellness was discussed. The Indivisible Self: an Evidence Based Model of Wellness was referred to and its factors explain wellness in greater detail. The IS-WEL conceptualise wellness from a holistic point of view that incorporate all relevant wellness factors to the benefit of the present research. Chapter 2 clarifies wellness theories and models and answers some of the research questions from the literature.

Chapter 3 deals with employee wellness in an organisational context. The application of clinically researched wellness is shifted towards wellness at
work. Work wellness applications form the centre of the present research and Chapter 3 deals with the conceptualisation and explanation of work wellness. This literature study enlighten corporate health and wellness programmes and summaries all the important factors that are relevant for a holistic work-wellness model. A preliminary work-wellness model is constructed out of the literature incorporating wellness, individual orientations and organisational factors.
CHAPTER 3

WORK WELLNESS

Wellness that is being researched in a working context is the centre of interest in this chapter. Initially work wellness is defined. Theories of organisational psychology that advance work wellness, either as individual or as organisational constructs, are discussed in this chapter. The benefits of work-wellness programmes are explained and summarised while a preliminary work-wellness model is constructed from the researched literature.

3.1 DEFINING WORK WELLNESS

Positive psychology and the organisational application thereof (positive organisational behaviour) focus on the health and wellness side of the illness-health-wellness continuum. This paradigm is concerned with the study of positive organisational outcomes and individual attributes (Keyes & Haidt, 2003; Coetzee, 2004) as positive organisational behaviours that develop virtuous organisations (Turner et al., 2002; Luthins, 2002; Cameron, 2003).

The development of optimum health and wellness is based on the recognition and support of the rights of individuals to manage their own quality of life at work (Huiskamp, 2004). Healthier employees are more productive, creative, co-operative, competent and committed, miss fewer workdays and suffer fewer illnesses (Witmer and Sweeney, 1992). Several interventions unfortunately only incorporated strategies to help and support employees to move from illness to health – only the negative deviant of the continuum. The positive deviant (developing wellness and maximised behaviour) has been neglected and more research needs to be done on this side of the continuum (Seligman, 2002; Seligman & Csikszentmihalyi, 2000).

Luthins (2002) supports the view that the new field of positive psychology should promote and focus on the development of positive organisational behaviour. This researcher states that the field of organisational behaviour
needs a proactive, positive approach by developing strengths, rather than continuing the remedial (negative spiral) approach of only trying to fix weaknesses in organisations. The suitability of the workplace to prevent physical and psychological illness as well as to promote wellness, is compatible with (and extends) the mission of positive organisational behaviour (Luthins, 2002).

Cameron (2003) elaborates on defining the field of positive organisational behaviour as the best of human condition, the excellence and essence of humankind, and the highest aspirations of human beings at work. Positive organisational behaviour is also seen as the study and application of positively orientated human strengths and psychological capacities that can be measured, developed and effectively managed for performance improvement in the workplace (Luthins, 2002). This means that the focus of positive organisational behaviour and that of work wellness are compatible and integrated by various research studies.

Some organisational behavioural researchers take it further and define work wellness as personal growth, purpose in life, having positive relations with others, environmental mastery and positive contributions at work (Harter, Schmidt and Keyes, 2003). Witmer and Sweeney (1992) add a similar wellness perspective by expressing spirituality, self-regulation, work, love and friendship as life tasks that needs to be managed. Adams, Bezner and Steinhardt (1997) describe physical, spiritual, intellectual, psychological, social and emotional domains as important dimensions of perceived wellness that can be applied at work.

In the present research work wellness is defined as a life orientation toward optimal health and well-being in which body, mind and spirit are integrated in organisations by including organisational factors and individual dispositions as part of the holistic working system.

Many researchers report that work wellness studies stress the positive deviant of organisational behaviour and that quality and balance in life is an important
domain of wellness (Cameron, Dutton & Quinn, 2003; Luthins, 2002; Moller, 2004; Witmer & Sweeney, 1992). The importance of work-wellness studies is hereby underlined and a holistic integrated approach is clearly lacking, due to availability of work-wellness models in the literature. Existing work-wellness programmes that are described from the literature further explain this limitation.

3.2 WORK-WELLNESS PROGRAMMES

Different types of work-wellness programmes vary in terms of their focus. Health and wellness programmes range from information offering and awareness development to more complex strategies fully incorporated into the operations (Ginn & Henry, 2003). The fact that wellness is not the equivalent of physical health and that physical health excludes a lot of other important life domains that depict wellness, highlights the need for integrated work-wellness models. Holistic work-wellness models that precede the design of wellness programmes might give greater guidance. Such models build theory that focuses on holistic work-wellness programmes for organisations.

Holistic wellness programmes incorporate the rehabilitation and prevention of illness but more importantly also focus on the promotion of human strengths and wellness (Komaki, Barwick and Scott 1978). Health and wellness programmes are understood as being an integrated and holistic approach that develops, promotes and builds emotional, social and intellectual well-being as well as physical health in order to optimise human potential in a integrated system.

A conceptual model for health and wellness programmes underlines the fact that a paradoxical approach should be followed when managed health and wellness care are implemented. Figure 3.1 (see model below) displays the illness detection and cure as well as the illness prevention sides of the health continuum. By implementing a paradoxical approach both Employee Assistance Programmes (EAP) and Health and Wellness Programmes (HWP) covers all aspects of the health continuum.
3.2.1 Employee Assistance Programmes

Employee assistance programmes (EAPs), originally introduced in the eighties, provided private and confidential counselling to employees who needed help with disturbing issues such as drug abuse, alcohol consumption, financial problems, stress and trauma, family problems and other personal matters. Ever since research have indicated that the need for employee assistance programmes still does exist, and it is suggested that such programmes become part of the wellness continuum of organisations (Corporate Leadership Council, 2000).

Employee assistance programmes is defined as job-based programmes operating within a work environment for the purpose of identifying “troubled employees”, motivating them to resolve their troubles, and providing access to counselling or treatment for those employees who need these services (Nel, 2004). These programmes can contain elements of assessment, diagnosis, treatment, prevention and referrals of non-work related problems (Corporate Leadership Council, 2002). EAPs focus on health care, illness, substance abuse, stress and burnout, and socioeconomic dilemmas. The medical-
remedial model that helps employees to remove dysfunctional behaviours usually applies to situations outside of work contexts that do have a direct impact, on the working performance of the employee.

Atkinson (2005) found that the average annual cost for EAP services ranges from $2 to $20 per employee. This researcher also indicates that organisations save between $5 and $16 for each dollar that they invest. John McCann (1981) states that sickness cost to US organisations is enormous. Sick leave is estimated to cost $3 billion annually, while premature death is believed to cause a $19 billion loss in productivity. Chronic diseases, such as cancer, heart disease and diabetes, are the leading cause of death and disability in the United States, accounting for seven of every ten deaths (Chordas, 2003). The Cape Metropolis Government in South Africa loses on average R150 Million annually due to long-weekend sickness. Reese (2001) found that work-related issues accounted for only 35% of unscheduled absences – slightly more than personal responsibilities (34%), family issues (20%) and personal health problems (11%) in this study.

In his American study Atkinson (2005) states that absenteeism among drinkers (alcoholics) is four to eight times greater than among other employees. At least 12% of employees declared that they consume more than five drinks per day. Approximately 35% of employees use illegal drugs on a daily basis. According to Rima (2004) a quarter smoke, one fifth are obese, and 20% suffer from stress at work in the UK. Rima (2004) also reports a 100% increase (5 500 in the year 2000) of deaths related to alcohol consumption.

Users of illegal drugs require three times more sick leave compared to other employees and are five times more likely to file worker compensation claims. Up to 80% of worker compensation claims result from stress or trauma and 15% of injured workers generate 85% of workers compensation claims (Atkinson, 2005). Up to 65% of all back injuries are related to psychological problems or mental stress in the work place.
Other matters concerning job related (stress, burnout or interpersonal problems), personal (anxiety, depression, anger, grief or self-esteem), family (parenting or marital) or general life concerns (legal or financial) also form part of employee assistance. Typical interventions that focus on employee assistance programmes include:

- Health and safety management.
- Disease and disability management.
- Financial assistance.
- Alcohol and drug rehabilitation.
- Depression and family counselling.
- Stress and burnout training.
- Ergonomics.
- HIV/AIDS prevention and management

Nel (2004) states that there are broadly three categories of HIV/AIDS assistance programmes. These intent to: (1) inform and educate employees, (2) equip employees with behavioural skills to initiate change away from risky behaviour and (3) create a motivational culture that supports individual and group behavioural change. De Witte (2004) states that organisational change processes are sometimes mismanaged in such a way that they lead to high levels of job insecurity. Implementing the following can reduce the unpredictability, uncontrollability and negative impact of change:

- Full, open, immediate, honest and personal communication.
- Creating opportunities to participate in the process.
- Adherence to procedural and substantive fairness.
- Development of social and union support.
- Increase of employability by reskilling of employees.
- Introduction of positive job characteristics as compensation.

Suicide is generally depicted as being of epidemic proportions in the police service. The Hackett (2003) reports indicate that the suicide rate for all the
major police departments in the United States of America is significantly higher than the national average. These rates vary from 29,1% higher than the national average (New York) up to 197,5% for the San Diego Police Department in 1998. South African statistics for the year 2002 indicated the lowest rate for the reporting period as more than five times the national average. Suicide in most police organisations forms part of their preventative programmes.

Several preventative programmes can be implemented to minimise suicide in the police. Loo (1999) suggests a systemic approach, focusing not just on the act itself, but also on building police officials’ work and life competencies, and in so doing enhancing their resilience to general stressors. Assistance programmes that promote healthy lifestyles to help police officials with trauma debriefing, alcohol and drug abuse and social support do prevent suicides (Steyn & Maphoso, 2004). Suicide prevention workshops address suicide myths and warning signs, an intervention plan, dealing with suicidal people and stress reactions. Employee assistance services also provide trauma and incident debriefing to lower the risk of posttraumatic stress disorder. Other benefits of the programme include destigmatisation of help seeking, reduced relationship dysfunction and reduced absenteeism (Jacobs & Raphael, 1998).

Employee assistance programmes are also important in the handling of occupational injury that eventually leads to death claims. During the period 1999-2001 workers experienced an average annual number of 426 fatalities (Department of Labour, 2002). Safety management interventions as part of a proper safety management system require continual attention to three domains, namely the environment (equipment, tools, housekeeping), the person (knowledge, skills, abilities and personality), and behaviour (Geller, 1998). All factors within and between the three domains are interactive, dynamic and reciprocal (Findley, 2003). Cooper (1999) supports the fact that behaviour should be incorporated into preventative programmes, because most industrial accidents were caused by unsafe acts. Behaviour Science Technology has found that between 80% and 95% of all accidents are caused by unsafe behaviour (Macdonald, 2002).
A behaviour-based safety programme implemented at Sishen Iron Mine brought about a substantial improvement in the safety culture and positively impacted on the number of lost-time injuries (Moller & Rothmann, 2004). Geller (1996, 1998) suggests four theoretical steps for a behaviour-based process:

- Define the target behaviour to be increased or decreased.
- Observe the behaviour and record in a data management system.
- Intervene to change the target behaviour in desired directions.
- Test the impact of the intervention procedure by continuing to observe and record the behaviour.

The behaviour-based process at the mine firstly involved the definition of the problem (at-risk-behaviour), thereafter the design and implementation of an intervention (training) followed. To decrease behaviour causing the problem and/or to increase behaviour that can alleviate the problem was developed. Positive reinforcement for safe practices (and punishment of risk behaviour) promoted the occupational safety programme (Moller & Rothmann, 2004). Research results of this study proved reduced alcohol and drug usage (7%), increased training satisfaction (9%), a 13% improvement for safety feedback and hazard identification and correction indicated a positive shift (3%).

### 3.2.2 Health and Wellness Programmes

The health concept has different applications for different researchers and cause at the same time confusion with wellness research. Mackintosh (1996) suggests that health is a complex concept with various dimensions like health for survival, emotional health, mental health, health of the environment, as well as health of the body and spirit. It is summarised as a multidimensional, holistic concept, perceived by individuals in different ways, suggesting not just the absence of illness. Health programmes address the promotion of a healthy state (implying stability and homeostasis) in all life domains. Health
programmes therefore prevent illness and promote health as a meaning to an end, namely integrated or total health.

Health is inseparable from wellness. In the present research project it is understood that wellness covers all aspects of human life, even though some researchers might limit the concept to physical health only. Wellness programmes extend this approach towards optimised growth and the development in all life domains and human strengths. It implies a proactive stand on achieving and maintaining optimum physical, mental and emotional wellbeing. Rima (2004) defines wellness programmes as a way of managing the healthy not to get sick. Wellness programmes aim at guiding employees towards a process of optimised or flourished engagement (positive spiral) in all domains of life.

According to Bunker (2005) the first step of implementing an integrated health and wellness programme is to develop a strategic plan that identifies organisational objectives and sets measurable outcomes. Moller and Rothmann (2004) used leading and lagging indicators as part of their strategy to manage a health programme. DaimlerChrysler reports an annual saving of $7 million as part of their strategy to reduce organisational cost (Campbell, Coverse & Rogers, 2001). Therefore should health and wellness programmes be incorporated into the strategic management of the organisation.

The strategic importance for organisations to implement health and wellness programmes for their employees is clear (Reese, 2001). According to Nel (2004) healthy organisations are characterised by low labour turnover, low absenteeism, high productivity, high employee satisfaction, improved job satisfaction, fewer health care claims, improved recruiting yields and minimal union grievances. Collins (2004) found lower levels of stress, increased well-being, self-image and self-esteem, improved fitness, better stamina and potential weight reduction at organisations with wellness programmes.

Phillips (2002) states that organisational and individual wellness is grounded as a business case that results in an employer of choice as well as satisfied
customers. Dycke (1999) considers four areas of importance for a wellness business case: 1) financial impact of the health, safety and wellness on the organisational effectiveness, 2) cost of neglecting the impact on future profits, organisational resilience, employee morale and culture, 3) magnitude of the potential improvement and 4) projecting the potential employee health, safety and wellness in a flourishing organisation.

The Corporate Leadership Council (2002) states that wellness programmes can save organisations more than $200 billion a year in compensation claims, absenteeism, health insurance and medical expenses ($13 billion per year). Collins (2004) argues that it will increase with an estimated 14% each year. Lightfoot (2004) states that the return on investment can be up to $13 for every dollar spend on work-wellness programmes. Duck (1999) reports a return of up to $7 for each dollar spend in Canadian organisations with wellness programmes.

Absenteeism and employee turnover is linked to poor health and morale in the workplace (Hope, 2004). On-site wellness facilities reduce absenteeism, encourage employee retention, reduce hiring and training cost and help employees perform on a higher level at work. Walker (2004) reports 17% increase in the retention rates as some benefits for the implementation of a wellness programme. For every dollar invested at Anthem Inc., $4 in cost is saved as a result of the proactive health care programme that focuses on heart failure, artery disease, asthma and diabetes. At Standard Life Healthcare Rima reports a 23% decrease in staff turnover and a 5% cut in absence levels during the first year of their programme. The overall health status of employees in this organisation’s improved by 12% since the implementation of the programme.

Integration of workers’ compensation, disability, health and wellness benefits are required since fragmented management leads to inefficient control over medical and insurance claims (Bunker, 2005). According to Fidelity Investments, nearly 50% of people in the US have begun dieting, 34% lost weight, 37% underwent routine health screening tests and 30% started to
exercise more in an effort to reduce the need for costly medical care. Destiny Health’s Vitality Programme indicates that 79% of members have started an exercise and nutrition programme as compared to the 32% of the non-members (Chordas, 2003). These types of insurance programmes reward employees through discounts on premiums, low co-payments for lifestyle programmes, discounts on services not covered by medical aids as well as encouraging employees to adopt healthier lifestyles.

Alexander (2001) expresses the need for wellness programmes by stating that only six percent of organisations that know about wellness have exercise or activity programmes. Wellness programmes can be developed or revised to meet prevalent needs within the employee population. It is equally important to design programmes to prevent healthy employees from falling into a negative spiral of illness, that adds to the health risk factors over time. Well-researched health programmes will reap the benefits for employee health and wellness in support of the organisational objectives (Phillips, 2002).

Research from the Corporate Leadership Council (2002) suggests that wellness programmes that create a better balance between benefits for both work and family life help organisations to grow. It is reported that wellness programmes impact positively on employee morale, job satisfaction and productivity as well as reducing absenteeism and employee turnover. Ritter (2000) indicates that wellness programmes result in cost reduction via decreased sick leave, reduced worker compensation, fewer hospital admissions and lower loss of working days due to disability.

According Walker (2004) health and wellness programmes depend on the specific needs of the organisation. Most organisations therefore do health screenings to diagnose the status of its employees’ health. Health screenings that focus on colon cancer, blood pressure, blood composition, blood sugar, cholesterol and HIV/AIDS diagnoses are found to be the most common. Other health and wellness screenings include height, weight and body fat composition assessments as well as levels of fitness of employees.
The content of health and wellness programmes mainly focuses on the physical domain of human strengths while wellness programmes concerning the other domains need development. Developing and implementing health and wellness programmes require a multi-disciplinary approach that involves human resource practitioners, dieticians, fitness trainers and lifestyle coaches. Therapists, nurses, physicians, exercise physiologists and other professionals are well qualified not only in the occupational health promotion, but also in contributing to the larger wellness continuum (Wicken, 2004). Skills in movement science, fitness evaluation and training, understanding older employees, or the physically disabled, psychosocial response to illness and injury, screening activities involving posture, physiologic parameters, functional capacity/performance are some of the areas that require a unique and valuable constellation of skills. The content of comprehensive interventions in this regard focuses on the following (Chordas, 2003; Hope, 2004; Reese, 2001):

- Flue vaccines.
- Wellness newsletters and hosted health fairs.
- Rebates on health premium contributions.
- Nurse line as educational assistance.
- Nutritional education and management.
- Walk, run and other sports groups.
- Muscle stretches, shoulder rolls, wrist rotations with resistance tubing.
- Physical health related fitness classes
  - cardiorespiratory fitness,
  - muscular strength,
  - endurance,
  - body composition,
  - body flexibility,
  - aerobics,
  - pilates training,
  - karate,
  - yoga and
- dancing.
- Weight management and cooking classes.
- Smoking cessation seminars.
- Vision and hearing care.
- Mammograms (detecting breast cancer).
- Restful sleep intervention.
- Parental and baby care classes.
- On site head, neck and back messages.
- Manicures, pedicures and other spa treatments.
- Job redesign.
- Coaching and mentoring programmes.
- Leadership and culture transformations.
- Retirement classes.
- Financial and tax management.
- Return to work interviews.
- Ergonomic initiatives.

These organisational development interventions highlight the importance of the so-called human factor in organisations. Training and development programmes should be integrated with wellness programmes. Both focus on personal empowerment, the promotion of human relationships, and improved systems in organisations. Human resource development is also crucial as a need to focus human skills on the increasingly complex and interrelated work problems of organisations. Limitations lies in the fact that work-wellness programmes are not based on empirical research, wellness theories or wellness models that focus on the implementation of effective interventions.

Some organisational development interventions do promote wellness in corporations. A focused approached with a holistic work-wellness model will benefit corporations more. Effective work-wellness programmes integrate remedial as well as promotional health and wellness interventions. A holistic and systemic approach needs to incorporate individual dispositions, organisational factors and wellness constructs. These important aspects are
discussed in the next section in terms of the development of a theoretical work-wellness model.

### 3.3 INDIVIDUAL DISPOSITIONS AND PSYCHOLOGICAL STATES

Individual dispositions that form part of work-wellness modelling can be described in terms of certain personality characteristics and individual outcomes. Sense of coherence, self-efficacy, locus of control and positive emotions (optimism and hope) as found within the fortigenic paradigm are researched and discussed (Strümpfer, 1990, 1995). Judge, Thoresen and Pucik (1996) analysed results obtained from five different studies and found that self-esteem, self-efficacy, locus of control and positive affectivity loaded on a common factor of wellness. All these individual dispositions influence the wellness of employees in an organisation. These research themes indicate strong statistical relationships between several of the dispositional factors and their statistical relationship to wellness, and should be taken into account as part of a systemic work-wellness model.

In 1979 Antonovsky developed the salutogenic model which explained why people who are confronted by a stressor, which results in a state of tension that must be dealt with, can produce pathological, neutral or salutary outcomes, depending on the adequacy of their tension management. The factors that determined this tension management was the key question that Antonovsky investigated and he suggested that the sense of coherence concept could provide the answer to this question.

**Sense of coherence** is founded and described by Antonovsky (1987) as a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of self-confidence, that: 1) one's internal and external environments are predictable, structured and explicable (comprehensive); 2) resources are available to one to meet the demands posed by these stimuli (manageable) and 3) these demands are challenges worthy of investment and engagement (meaning).
Someone with a high sense of coherence applies a wide range of coping strategies in a flexible manner (Antonovsky, 1979). This person understands the nature and dynamics of chronic stressors better and experiences them as manageable. There is enough research (Basson & Rothmann, 2002; Malan & de Bruin, 2001) to validate the fact that people with a high sense of coherence manage and cope better with stress and burnout.

Empirical research has shown that a sense of coherence is related to an individual's job satisfaction. Rothmann (2000) did a meta-analysis and found a practically significant correlation of 0,50 between sense of coherence and job satisfaction in a study population that included employees of 7 different South African organisations. More research that confirms these findings was done by Pretorius and Rothmann (2001), Coetzee and Rothmann (1999) and Strümpfer (1995).

Research showed that a high sense of coherence, active coping and work engagement were negatively, and passive coping positively related to burnout (Redelinghuys & Rothmann, 2004). Sense of coherence and coping can be utilised to predict burnout (illness) and work engagement (wellness). The relationship of sense of coherence and similar dispositions is studied in the context of flourishing individuals at work, which explains its contribution to work-wellness models.

Similar to sense of coherence, self-efficacy refers to the belief of individuals that they can successfully perform the behaviour required for a specific task (Gist, 1987). Bandura (1977) conceptualised self-efficacy as a situation-specific or task-specific belief. This researcher strongly emphasises that self-efficacy is the most pervasive and important of the psychological mechanisms for positivity (Bandura, 1977). However, Sherrer and Maddux (1982) argue that an individual's past experiences with success and failure in a variety of situations would result in a general set of expectations that the individual carries into new situations, and these generalised expectancies could influence the individual's expectations of mastery in new situations. Empirical research has consistently found that self-efficacy has had a significant impact
on performance on a variety of tasks as well as motivation, emotional reactions and persistence on a task (Gist & Mitchell, 1992). Thomas, Moore and Scott (1996) found that self-efficacy mediated the relationship between personality and performance in self-managing work teams. They implied that people with high self-efficacy scores would tend to be resilient and would be the most likely to be well (Thomas, Moore & Scott, 1996).

Locus of control (LOC) describes the extent to which individuals believe that their behaviour has a direct impact on events that follow (Garson & Stanwyck, 1997). Rotter (1966) introduced the concept locus of control and described individuals who believe that they can control what happens to them as having an internal locus of control (internals). Those who tend to think about what happens to them as a function of luck, fate or powerful others have an external locus of control (externals). Rothmann and Agathagelou (2000) in a study of senior police personnel found a negative relationship between external locus of control and job satisfaction but found no positive relationship between internal locus of control and job satisfaction. Pretorius and Rothmann (2001) found a positive relationship between internal locus of control and job satisfaction in a financial institution while Naudé and Rothmann (2000) found a significant negative relationship between external locus of control and job satisfaction in a study with agriculture representatives. Numerous studies have shown that internals perform better than externals in job situations that require initiative, responsibility, autonomy, and problem solving (Abdel-Halim, 1980; Rizzo, House & Lirtzman, 1970). Findings of Els (1999) indicated that locus of control could be stimulated in an organisational context. This research indicated that participants developed higher levels of internal locus of control and autonomy directly after a training intervention. In the same study higher scores of self-acceptance and acceptance of others were reported as supporting data of wellness. All of these were sustained for three months after training with a moderate increase in external locus of control.

Judge, Locke, Durham and Kluger (1998) found that locus of control measurements highly correlated with self-efficacy as a wellness construct. Pretorius and Rothmann (2001) also found a positive correlation between
sense of coherence, self-efficacy and locus of control. Locus of control is highly applicable to develop wellness models in a working environment.

**Positive emotional states**, a term coined by Seligman (1998), also contribute to positive organisational behaviour and individual wellness. These emotional states refer to how people optimise human functioning by acknowledging strengths and deficiencies as well as environmental resources in addition to stressors (Wrighte & Lopez, 2002). Positive treatments are those where the objective is to promote levels of wellness or those that build upon the person’s existing strengths. Stimulating positive emotional states therefore expand and develop the existing strengths. Frederickson (1998) reports that the promotion of positive emotions broaden people’s scope of attention, cognition and action as well as contributing to building physical, intellectual and social resources. Positive emotions that support emotional wellness in the workplace incorporate hope, optimism, happiness, generosity, courage, joy and contentment (Lutins, 2002). Some of these constructs being researched in the field of positive psychology are discussed below.

**Hope** as a positive emotion, is defined as goal-directed thinking in which people perceive that they can produce routes to desired goals (pathway thinking) and the requisite motivation to use those routes (agency thinking). According to Snyder and colleagues hope has both affective and cognitive qualities. It refers to a sense of successful determination in meeting goals in the past, present and future (Snyder, Irving & Anderson, 1991; Snyder and Pedrotti 2003). Given the histories of successfully dealing with stressors and attaining desired goals, high hopers generally have positive emotions as well as zest and confidence that correlate with wellness (Lopez, Snyder & Temramoto-Pedrotti, 2003).

**Optimism** refers to the degree to which individuals hold positive expectancy for their future (Scheier & Carver, 1987). It is the belief that future events will turn out in a positive and affirmative manner. Dispositional optimism can be defined as a person’s positive outlook towards life events. Some researchers describe optimism as psychological resistance, which could be used to
conceptualise individual differences related to more positive outcomes (Ebert, Tucker & Roth, 2002). Positive outcomes being predicted by optimism include 1) coping with major life stresses, 2) adjusting to major life transitions, and 3) buffering responses to more minor stresses.

Factors like optimism, spirituality and social support are known to influence well-being (Sieberhagen & Rothmann, 2004). Optimism is associated with improved immune functioning and lower neuroticism. Fry (1995) found evidence that optimism significantly moderates the relationship between daily hassles and self-esteem maintenance, burnout and physical illness. No significant proof can be provided that optimistic and pessimistic behavioural states are contradictory. Scheier and Carver (2003) rather suggest that people range from very optimistic to very pessimistic, with most falling somewhere in the middle of the same scale. According to Hasan and Power (2002) optimistic people make stable-global-internal attributions for positive events and unstable-specific-external attributions for negative events, whereas pessimistic people do the opposite. Optimists rely more on strategies that help them to control or modify aspects of stressors, they usually seek information, and are more involved in planning and positive framing of situations (Jackson, Weiss & Lundquist, 2001). Pessimists on the other hand tend to employ tactics such as negative coping, cognitive or behavioural avoidance, denial, disengagement and substance abuse. Optimism has been mostly linked to active, persistent, health-orientated coping, while pessimism is more likely to be linked to emotional distress, health concerns and negative coping (Harju & Bolen, 1998). Scheier and Carver (1992) found that optimists became significantly less stressed, depressed and lonely over time compared to their pessimistic counterparts in their adaptation to tertiary education.

**Engagement** as the antithesis of burnout is basically understood as a positive, fulfilling, work-related state that is characterised by vigour, dedication and absorption (Schaufeli & Bakker, 2001; Coetzer, 2004). It is not a momentary and specific state, but a more persistent and pervasive affective-cognitive state, which is not focussed on a particular object, event, individual or behaviour (Schaufeli, Salanova, Gonzales-Roma & Baker, 2002).
Development of the engagement construct took two different, but related paths. Firstly Maslach and Leiter (1997) rephrased burnout as an erosion of engagement with a job. Subjective experiences of work that started out as important, meaningful and challenging become unpleasant, unfulfilling and meaningless as burnout develops. According to them engagement is then characterised by energy, involvement and efficacy, as the direct opposite of burnout characteristics (Maslach and Leiter, 1997). The second path was taken by Schaufeli and his colleagues, agreeing in part with Maslach and Leiter, with the only difference that engagement be measured with a different instrument as a construct in its own right (Schaufeli, Salanova, Gonzales-Roma & Baker, 2002). This led the development of the Utrecht Work Engagement Scale (UWES).

Harter, Schmidt and Keys (2004) describe engagement as a basic human need that mediate the relationship between environment and work performance involving high cognitive and emotional activity. The definition proposed by Schaufeli for engagement is that of a persistent, positive affective-motivational state of fulfilment in employees that is characterised by vigour, dedication and absorption (Schaufeli, et al., 2002). Engagement is also viewed in the context of the employee’s organisational commitment.

Vigour is characterised by high levels of energy and mental resilience while working, as well as a willingness to exert effort and to persist even through difficult times. Dedication is characterised by a sense of significance in one’s work, feeling enthusiastic, inspired and proud, and by viewing it as a challenge. Absorption approximates the concept of “flow” defined as an optimal state or experience where focussed attention, a clear mind, unison of body and mind, effortless concentration, complete control, loss of self-consciousness, distortion of time and intrinsic enjoyment are experienced (Csikszentmihalyi, 1990). This model by Schaufeli was also validated with research done by Redelinghuys and Rothmann (2004) and Sieberhagen and Rothmann (2004). Sieberhagen and Rothmann (2004) indicated with the engagement model that absorption was best predicted by job resources and dedication, and vigour was best predicted by optimism.
According to Harter, Schmidt and Keys (2004) engagement can be developed by supplying and clarifying basic needs of employees, support clear outcome expectancies, give basic material support and encourage individual contribution and fulfilment in the workplace. Employees must be enabled to contribute to the bigger purpose and mission of the organisation (creating job significance), develop caring friendships and growth stimulating relationships (belonging) as well as facilitate a change to progress and learn continuously. Harter, Schmidt and Keys (2004) state that all of these elements (and positive emotions like joy, interest, contentment and caring love) together can be called employee engagement that can influence turnover, customer satisfaction, productivity and profit.

Engagement is theoretically viewed as the wellness end of the continuum with burnout (illness) as the opposite. It can therefore be distinguished but not divorced from burnout in terms of its structure and operationalisation. It is therefore also important to understand burnout as part of this continuum.

**Burnout** is defined as a persistent, negative, work-related state in normal individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behaviours at work (Schaufeli & Enzmann, 1998). Maslach and Jackson (1986) view it as a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment that can occur among individuals. According to Levert, Lucas and Ortlepp (2000) burnout is the result of consistently unmediated or unsuccessful attempts at resolving stressors in the environment of the individual.

Burnout and eventual ill health result from high levels of stress due to overload, inordinate time demands, inadequate collegial relationships, lack of resources, isolation, fear of violence, role ambiguity, limited promotion opportunities, lack of decision making authority, lack of financial and community support and role ambiguity. Psychological and physical ill health
occurs when environmental demands or constraints are perceived by employees to be exceeding their resources or capabilities.

Maslach, Schaufeli and Leiter (2001) described burnout as a syndrome consisting of three dimensions, namely feelings of emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment. Emotional exhaustion (stress dimension) refers to feelings of depleted physical and emotional resources. It prompts actions in employees to distance themselves emotionally and cognitively from their work, presumably as a way to cope with the workload (Sieberhagen & Rothmann, 2004). Exhaustion refers to an employee’s incapability of performing because all energy has been drained, whereas mental distancing involves an employee’s unwillingness to perform because of an increased intolerance of any effort. Depersonalisation represents the interpersonal context dimension and results in an avoidance coping style. Depersonalisation entails negative, callous and cynical attitudes or excessively detached responses towards the recipients of service and care, reducing them to impersonal objects. The third dimension, lack of professional accomplishment represents the self-evaluation dimension of burnout and refers to feelings of insufficiency, incompetence, lack of achievement, as well as feelings of unproductiveness (Schaufeli & Buunk, 1996).

Research has shown that burnout is not only related to negative outcomes for the individual, such as depression, a sense of failure, fatigue and loss of motivation, but also to negative outcomes for the organisation, including absenteeism, staff turnover rates and lowered productivity. According to Levert et al. (2000) workers with burnout show a lack of commitment and are less capable of providing adequate services, especially along dimensions of decision-making and initiating involvement with clients. Burned out workers are also too depleted to be creative and co-operative (Sammut, 1997).

Organisational Commitment has been identified as a significant moderator of stress and was linked to work engagement (Siu, 2002; Lee, Carswell & Allen, 2000). According to Blau and Boal (1987) organisational commitment
has two dimensions. It entails the extent to which individuals feel that their organisation is committed to them (extent of which employees feel trusted and respected). On the other hand, employers also expect their employees to do their job as best they can and expect them to be loyal and dedicated to the organisation.

Begley and Cazjka (1993) empirically tested the moderating effects of organisational commitment and concluded that commitment buffered the relationship between stress and job displeasure. Stress therefore only increased job displeasure when commitment was low. Organisational commitment also provides employees with stability and a sense of belonging. The opposite can also be true. Being too committed to one’s organisation or job can inhibit personal growth and prevent one from recognising organisational dysfunction which can also moderate group thinking (Sieberhagen & Rothmann, 2004). Over-committed employees can therefore suffer from work-home imbalance that will negatively impact on their wellness over a period of time.

Research by Siu (2002) showed that organisational commitment was related to positive physical and psychological outcomes among workers, and to moderating effects on the stressor-health relationship. This leads to the argument that the indirect or moderating effect of commitment protects individuals from the negative effect of stress, due to the fact that it enables them to attach direction and meaning to their work.

Research about meaning of work as a moderator for happiness is recognised as an individual state. Different orientations towards work defined as a job, career or calling are reported to influence the psychological state of employees (Seligman, 2002). Seligman (1999; 2004) reports that people with a calling orientation toward their work have a passionate commitment and are consistently happier than those with mere job or career orientations. Nakamura and Csikszentmihalyi (2002) reported that employees with calling orientations experienced a state of flow known as the complete absorption in activities that mesh perfectly with the ability of the individual. Employees who
are able to connect their work to the larger, meaningful purpose of the overall organisation (strategy) are likely to have higher levels of interest and ownership for organisational outcomes (Wrzesniewski, McCauley, Rozin and Schwartz, 1997). De Witte (2004) reports that organisational commitment, trust in the organisation and levels of turnover influence the wellness and work meaning of employees. The notion of personal value, fulfilment and work satisfaction results from the fact that the work fulfils one’s desired work values. For Baumeister and Leary (1995) meaning and engagement at work is created by a sense of belonging to some work tasks. Value fulfilment is consistent with the meaning and spirituality life domain of wellness and is therefore included in this research (Thomas and Velthouse, 1990).

Individual dispositions and emotional states are important constructs that need to be included in a systemic work-wellness model. Self-efficacy, sense of coherence, locus of control, hope, optimism, and engagement as well as job satisfaction and organisational commitment can be used to postulate a holistic work-wellness model. All of these constructs are applicable and important for the present research.

3.4 ORGANISATIONAL FACTORS

Organisational factors as another subpart of the bigger system are of importance for the present research. It can be described as those constructs that lie outside the domain of individual influence. These factors are systems created on the organisational level, over which the individual has less control. Leadership behaviour, job characteristics, organisational strategy and inter-group communication serve as examples hereof.

Spannenberg (2004) presents the fact that empowerment as leadership behaviour strongly impacts on the wellness of employees. Brief and Nord (1990) as well as Hackman and Oldham (1980) report on the impact of job design by stating that a fit between the requirements of a job and the individual’s beliefs, values and skills will facilitate wellness at work. Job design raises and involves the individual’s intrinsic commitment towards a given task
Leadership behaviour and job design are discussed as important organisational factors for the present research project.

**Leadership behaviour** is an important variable that impacts on employee wellness. Spannenberg (2004) reports its importance in the context of promoting work wellness. Leadership challenges with regard to work wellness is to create working conditions in which individuals can flourish. The need for employees to voluntarily commit themselves, collaborate and act towards the accomplishment of organisational goals can improve their state of wellness (Duvall, 1999). When leaders are trained to respond to each unique individual that they manage, the experiences of employees result in joy, interest and caring (Frederickson, 1998). The wellness of employees therefore depends to a large extent on the degree to which their managers behave as transformational leaders (Schabracq & Cooper, 2000). Leaders should demonstrate behaviours and values such as decency, fairness, justice, respect and mindfulness when managing employees. Bass (1985) and Burns (1978) report that both transformational and transactional leadership can influence employee well-being and work performance.

Functional leadership as researched by Oldham (1996) appears to be one of the most important means to prevent problems with wellness and health. Sparks, et al. (2001) state that an improvement in leadership’s communication with employees enhances the success of interventions aimed at the improvement of employee wellness and ultimately the effectiveness of the organisation. In a study by Beehr and Gupta (1987) it was found that employees in organisations with traditional management styles, experienced higher levels of stress (under-utilisation of skills and job overload). In instances where managerial support was high, such as effective communication and feedback, it appeared to be an important factor (Parry, 1998). Poor supervisory support, on the other hand, is linked to increased stress levels, depression, lower decision latitude, role conflict and ambiguity (Repetti, 1993; Loban et al., 1998). Bullying at work has been positively correlated with ill health, including psychosomatic stress symptoms, muscular-skeletal symptoms, anxiety and depression of employees (Hoel, Rayner and
Cooper, 1999). Evans and Edgerton (1991) researched self-care, daily hassles and cold symptoms and found in their study that threats to self-esteem were important in predicting colds.

Dolbier, Soderstrom and Steinhardt (2001) include self-leadership (as a leadership behaviour) as a prerequisite for enhanced psychological strengths, better health and work outcomes. Like in the case of transformational leadership the importance of self-leadership is explained as a system seeking balance. The Self is defined as an active, compassionate inner leader containing the perspective, confidence and vision necessary to lead the individual’s internal and external lives harmoniously and sensitively (Schwartz, 1995). It is described as an active internal leader, who helps the system to continuously reorganise in order to relate more harmoniously (Nichols & Schwartz, 1991). The Self is a place from which an individual observes, experiences and interacts with other parts and with other people. In the leadership role the Self listens to each part and what it really wants, nurtures or comforts some parts and helps change the role of some parts. It also negotiates with polarised parts to resolve differences (see also Indivisible Self in Chapter 2).

In leading, the Self adheres to the notion of pluralism, attempting to hold unity and diversity in balance, to value the many subparts within the unit, to resolve conflict without imposing synthesis or expelling parts, and to accept differences (Dolbier, Soderstrom and Steinhardt, 2001). The Self, actively leads parts in an equitable, firm and compassionate manner if the person is well. When leading with the harmonious integrated self, people refer to themselves as being in a state of calm, feeling centred, experiencing well-being and trustworthiness as well as a loss of self-consciousness. They also feel confident, free and open-hearted. This state is similar to what the Buddhists describe as mindfulness (Surya Das, 1997), Csikszentmihalyi (1993) described as being in flow and Stern (1985) described as a secure sense of self.
In the study of Dolbier, Soderstrom and Steinhardt (2001) reported correlations between self-leadership, health and work outcomes. Self-leadership was positively related to perceived wellness and inversely related to work stress. In addition self-leadership was positively related to the work outcomes and perceptions of work satisfaction, organisational communication, quality management, and relationship to the leader and team culture. Self-leadership was positively correlated with an approach coping style (eliminating sources of stress) and inversely related to an avoidant coping style (not managing stress situations). Approach coping styles are therefore viewed as more effective in health promoting, and avoidance coping is seen as less effective and more detrimental to health preservation. When leading with the self, the individual knows what is healthy and what is required to get balance and homeostasis as a form of wellness (Dolbier, Soderstrom and Steinhardt 2001). Self-leadership also positively correlated with optimism and hardiness while negatively correlated with ineffectiveness as feelings of worthlessness and insecurity. Self-leadership was significantly related to higher psychological functioning and better health status as measured by the perceived wellness survey. In a similar study these researchers found greater perceptions of work satisfaction, enhanced communication, quality management and effective work relationships. In terms of health outcomes, greater perceived wellness and less work stress are reported.

On the illness side of the illness-health-wellness continuum, threats to self-leadership can be termed as self-discrepancies that promote illness. Higgins, Vookles and Tykocinski (1992) found that those individuals who believes or perceives their actual selves were different from their ideal selves experienced more psychosomatic symptoms. The research results referred to prove that self-leadership is equally important and in some instances more or less the same construct as transformational leadership, all of which is important for the promotion of individual and organisational wellness.

Job design also impacts drastically on the work wellness of an employee. Schabracq (2003) reports that job redesign can help leaders to prevent stress and develop work wellness. Redesigning jobs to be more diverse and
complete, allowing more autonomy in job performance and providing more opportunities for social interaction are included as factors that can impact on work wellness. By providing workers with opportunities for autonomy in performing their jobs, challenging work and social interaction they are encouraged to exert choice and to feel competent (Turner, Barling & Zacharatos, 2002). Being engaged in a demanding job results in feelings of meaningfulness and significance for employees while also encouraging their acquisition of greater knowledge, sense of mastery and overall wellness. According to Turner et al., (2002) high task control and performance feedback are crucial for maximising the motivational and learning potential of a job.

Job design can maximise employee effectiveness, encourage engagement and optimise wellness. Sparks et al., (2001) report that the job demand/control model can be very useful to measure the amount of control in designed jobs. These researchers report that high levels of perceived control are associated with increased job satisfaction, commitment, involvement, performance and motivation as well as low levels of physical symptoms, emotional distress and absenteeism. Spector (1986) reports strong evidence of positive relationships between feelings of perceived control and job performance, work satisfaction and reduced stress.

Hackman and Oldham (1980) state that job design contributes to the overall satisfaction, accomplishment and motivation of employees performing it. They researched the motivational potential of jobs by calculating five core job dimensions that create three psychological states of well-being. These five job dimensions are as follows (Hackman and Oldham, 1980):

- **Skills variety** is the extent to which a job entails a variety of different activities and involves a range of different skills and talents of employees performing the job. If the job requires the employees to engage in tasks that challenge or stretch their abilities, they will experience the tasks as meaningful and the more skills it involves, the more meaningful the work is likely to be.
• **Task identity** refers to the degree to which a job requires completion of a whole and identifiable piece of work. Incorporating the full value chain and performing the job from beginning to end with a visible outcome add more identification with the tasks. In cases where the different tasks were incorporated into a whole and comprehensive job, employees experienced a greater level of meaningfulness at work.

• **Task significance** is the degree to which the job has a substantial impact on the lives of other people, either inside or outside the organisation. Experienced meaningfulness of the work is enhanced when employees understand that the work being done will have a significant impact on the physical or psychological well-being of other people.

• **Autonomy** is the extent to which a job provides freedom, independence and discretion to an individual in planning work and determining how to undertake it. When job autonomy is high, individuals view the outcomes as a result of their own efforts, initiatives and decisions. As autonomy increases, individuals tend to feel more personal responsibility for successes and failures that occur on the job and are more willing to accept personal accountability for their work outcomes.

• **Job feedback** refers to the degree to which work activities result in direct and clear information about the effectiveness of job performance. Being informed and having knowledge about the results of the work and the effectiveness of the outcomes, creates better comprehension and understanding for the individual.

• **Feedback from agents** is the extent to which the employee receives clear information as performance feedback from supervisors or from co-workers.
• **Dealing with others** is the degree of interdependence between employees. Working closely with others in carrying out the work activities results in relationships with internal and external clients.

By taking all the above job dimensions into account, the overall motivational potential score of the job can be calculated (Mullins, 1999). The overall motivational potential score gives an indication of the potential of a job to foster internal work motivation on the part of job incumbents. Well-designed jobs will therefore foster internal motivation and well-being for the individual, when the individual's competence also measures up to it. It is also emphasised by Hackman and Oldham (1980) that the motivational potential of a job does not cause employees who work on that job to be internally motivated to perform well or to experience job satisfaction. A job that is high in motivational potential merely creates conditions that, if the employee performs well, make it likely that they will experience as a consequence a reinforcing state of affairs. It is equally important to recruit talent and skills into jobs that match the demands of the job.

From the literature it is evident that job design and the motivational potential of tasks should be researched as part of work wellness. Factors that affect motivation and psychological well-being are job content and contextual factors. Taylor (1980) researched situations that people find most satisfying and rewarding (meaningful) as invariably those that provide the opportunity to satisfy job content. A sense of achievement, some act of recognition and appraisal, authority and responsibility, growth, advancement and self-development as well as the nature of the work itself involving variety, creativity and challenge are examples. Job contextual factors are those relating to interpersonal relationships, status, working conditions, salary, competent supervision and company policies. All of those point to the fact that a holistic approach to work wellness is required (Sparks, et al., 2001).
According to the Job Demand-Resources Model (Schaufeli et al., 2002) some psychological and organisational processes are supportive of either wellness (engagement) or illness (burnout) in the workplace.

Job demands represent the negative side of the continuum and are defined as tasks that require sustained physical and mental effort that includes physical, social and organisational aspects. Quantitative job demands involve the amount of work required and the available time frame, while qualitative workload involves the affective reactions of employees in their jobs (Cooper, Dewe & O’Driscoll, 2001). Jackson and Rothmann (2005) found that extensive job demands lead to ill health. A good fit was found for a well-being model in which burnout (exhaustion and cynicism) mediated the relationship between job demands and ill health. However the positive and wellness view are also of importance for job resources.

**Job Resources** are those physical, psychological, social and organisational aspects of a job that may be functional in achieving work goals. Job resources stimulate personal growth and development as well as reduce job demands, including the associated psychological cost. These are promotional factors in the job that support and sustain the well-being of the person that performs the job. Job characteristics such as variety, independence, opportunities for learning and participation, role clarity, effective communication, advancement opportunities, fair remuneration and effective relationships with supervisors and colleagues create psychological meaningfulness for employees. All of which are needed to stimulate feelings of engagement at work (Frey, Jonas & Greitemeyer, 2003).

Jackson and Rothmann (2005) found that engagement (vigour and dedication) mediated the relationship between job resources and organisational commitment. Job resources play either an intrinsic motivational role (by fostering the employee’s growth, learning and development) or they may play an extrinsic motivational role (by being instrumental in achieving work goals). Schaufeli and Bakker (2004) confirmed the model and state that engagement mediated the relationship between job resources and turnover.
intentions. Therefore job resources strongly contribute to low burnout and high work engagement. Job resources therefore do contribute to a work-wellness model.

Factors such as leadership behaviour and job design are acknowledged as independent variables that apply to a systemic work-wellness model being part of this study. These organisational factors seem to contribute to wellness at work and can be included in a systemic work-wellness model from the literature.

3.5 PRELIMINARY WORK-WELLNESS MODEL

The value that is added in the field of organisational development and fortology by the present research is in the integration of organisational factors, individual dispositions and wellness. Understanding the relationships between these constructs that from part of a holistic work-wellness model builds theory (see model below).
<table>
<thead>
<tr>
<th>Individual Dispositions and States</th>
<th>5 Factor Wellness</th>
<th>Organisational Factors</th>
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<tbody>
<tr>
<td>Self-efficacy</td>
<td>Physical Self</td>
<td>Leadership</td>
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<td></td>
<td>- Nutrition</td>
<td>- Transformational</td>
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<td></td>
<td>- Exercise</td>
<td>- Self-leadership</td>
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<td>Sense of coherence</td>
<td>Creative Self</td>
<td>Job Design</td>
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<tr>
<td>- Comprehensibility</td>
<td>- Thinking</td>
<td>- Skill Variety</td>
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<td>- Manageability</td>
<td>- Emotions</td>
<td>- Task Identity</td>
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<td>- Meaning</td>
<td>- Control</td>
<td>- Task Significance</td>
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<td>- Work</td>
<td>- Autonomy</td>
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<td></td>
<td>- Positive Humour</td>
<td>- Feedback from Job</td>
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<tr>
<td>Locus of control</td>
<td>Coping Self</td>
<td>- Feedback from Agents</td>
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<tr>
<td>- External</td>
<td>- Leisure</td>
<td>- Dealing with Others</td>
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<tr>
<td>- Internal</td>
<td>- Stress Management</td>
<td>- Motivation Potential</td>
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<td>- Autonomy</td>
<td>- Self-worth</td>
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<td></td>
<td>- Realistic Beliefs</td>
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<td>Optimism</td>
<td>Essential Self</td>
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<td></td>
<td>- Spirituality</td>
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<td>- Gender Identity</td>
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<td>- Cultural Identity</td>
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<td></td>
<td>- Self-care</td>
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<tr>
<td>Hope</td>
<td>Social Self</td>
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<td></td>
<td>- Friendship</td>
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<td>- Love</td>
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<td>Hardiness</td>
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<td>Learned Resourcefulness</td>
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<td>Resilience</td>
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<tr>
<td>Purpose and Meaning</td>
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<td>Burnout-Engagement</td>
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<td>Job Satisfaction</td>
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<td>Organisational Commitment</td>
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Effective work-wellness models and corresponding measures are founded on basic principles common to all conceptualisations of wellness and are as follows:

- Multidimensionality, involving all related subsystems.
- Having a holistic and integrated view.
- Balance and expansion among all dimensions implies growth.
- Approached from the positive or salutogenesis and psychortogenic (promoting health and wellness rather than curing illness).
- Including positive organisational behavioural constructs as part of a holistic integrated system.

3.6 CHAPTER SUMMARY

Work wellness is defined in this chapter. Work-wellness programmes that also incorporate employee assistance programmes are addressed as positive organisational behaviour interventions. These programmes incorporate both the negative and the positive sides of the health continuum and the development of holistic wellness programmes should include both.

Individual dispositions, emotional states, organisational factors and wellness constructs that contribute to a theoretical work-wellness model are discussed. A preliminary work-wellness model is postulated as a conceptual and theoretical model out of the literature. This preliminary work-wellness model serves as a conceptual understanding from the literature as to what are important constructs that need to be considered in the present research. These constructs correlate with wellness as well as each other. Parts of the preliminary work-wellness model are empirically tested to further understand the relevance of it. The statistical results thereof are documented in Chapter 5. Empirical research methodologies are addressed in Chapter 4.
CHAPTER 4

EMPIRICAL RESEARCH METHODOLOGY

The second phase of the present research project focus on the empirical study, which is discussed in this chapter. The research design and measuring instruments used are described. The research procedure as well as the statistical analysis and methodology are discussed in this chapter.

4.1 RESEARCH DESIGN

A cross-sectional design is used as a form of quantitative research (Bethlehem, 1999). According to this design each individual in the sample is evaluated on several constructs at the same time, and the relationship between the constructs is determined. It is a study of connections that occur without any planned intervention between the constructs or variables (Bethlehem, 1999). The cross-sectional design lends itself to the examination of stable, long-term states or conditions and allows researchers to make inferences from a sample to a population.

Error of measurement is a practical research problem that might occur when using this design. This happens when a respondent does not understand a question or do not respond to a question, which is then, reflected as missing data. During the entry of the data processing errors can occur. Control techniques are used to limit processing errors and statistical techniques such as multiple moderator regression analysis and structural equation modelling are used to compensate for the third-variable problem (Hair, Anderson, Tatham & Black, 2003).

Certain variables, like the age of participants, can have an effect on the results and therefore a biographical questionnaire is included to control variables such as age, gender, length of service and educational background.
4.2 MEASURING BATTERY

The measuring battery consisted of 6 questionnaires in total. The measuring battery is discussed in terms of rationale, development, description, administration, scoring, reliability and validity of the measuring instruments. The preliminary work-wellness model that was developed out of the literature gave guidance to construct the measuring battery. All the constructs in the preliminary work-wellness model (Table 3.1) could not be included to measure work wellness. The work-wellness measuring battery took approximately thirty minutes to complete.

4.2.1 5 Factor Wellness Inventory (5F-Wel)

The Five Factor Wellness Inventory (5F-Wel) was designed to assess the characteristics of wellness as a basis for helping individuals make choices toward healthier living (Meyers & Sweeney, 2005). An early version of the instrument, the Wellness Evaluation of Lifestyle (WEL) was published in 1998 (Myers, Sweeney, & Witmer, 1998). The WEL was developed to assess 17 wellness areas identified through cross-disciplinary research studies as correlates of health, quality of life, and longevity depicted in a theoretical wheel model. Analysis of a large database from the WEL ($n = 3,993$) using structural equation modelling revealed an alternate factor structure and led to a new clinical model, the Indivisible Self (see Chapter 3), and the 5F-Wel as a measurement for wellness. The Five Factor Wellness Inventory (5F-Wel) is based on confirmation of a single higher-order wellness factor, five second-order factors, and 17 third-order factors representing the original hypothesised areas of wellness. These areas group within the five second-order factors as follows:

- **Creative Self** - thinking, emotions, control, work, positive humour.
- **Coping Self** - leisure, stress management, self-worth, realistic beliefs.
- **Social Self** - friendship, love.
- **Essential Self** - spirituality, gender identity, cultural identity, self-care.
• Physical Self - nutrition, exercise.

The model and inventory is ecological and includes local, institutional, global, and chronometrical as contextual variables as well.

The 5F-Wel survey includes 73 items scored on scales for total wellness, the five factors of the self, and the 17 third-order factors. Contextual variables are assessed using 18 items that are currently experimental (i.e., norms for these scales are not yet available). The norms included are for more than 2000 individuals of varying ages across the lifespan; norms are presented for both gender and ethnic minority groups.

Reliability studies indicated alpha coefficients (n = 2093) are uniformly high for the first- and second-order factors: Total Wellness, 0.90; Creative Self, 0.92; Coping Self and Social Self, 0.85; Essential Self and Physical Self, 0.88. Third-order factor alpha coefficients range from 0.70 to 0.87 for all but two scales: Self-Care, 0.66 and Realistic Beliefs, 0.68. Use of the scales in multiple dissertation and other studies provide evidence of both convergent and divergent validity of scales relative to constructs such as ethnic identity, acculturation, body image, self-esteem, and gender role conflict.

Literature researched confirmed that the 5F-Wel was the instrument that best supports the measurement of holistic wellness. This inventory has shown satisfactory reliability and validity coefficients in previous studies. It is, however, the first time that this version is used on a South African population. The 5F-Wel measure was slightly adapted to fit the South African application. Items that relate to race groups were adapted to the race groups in South Africa opposed to the groups found in the United States of America.

4.2.2 Job Diagnostics Survey (JDS)

Embedded within the theoretical basis of the Job Characteristics Model (Hackman and Oldham, 1974), the Job Diagnostics Survey (JDS) was developed as a diagnostic instrument. The Job Diagnostics Survey (JDS)
evolved from the Job Dimensions Scale with which it has much similarity. The Job Diagnostics Survey (JDS) is widely used as a data collection instrument in the field of organisational development for job characteristics diagnoses.

The rationale for the development of this instrument was aimed at each major class of variables in the theoretical approaches towards work motivation. The approach of Hackman and Oldham (1980) towards work design stems from something of a hybrid of the behavioural and systems approaches. The behavioural approach suggests that work effectiveness will be enhanced if employees have jobs that are not simple and repetitive. This approach states that work should be complex, meaningful and challenging. The systems approach accepts and goes beyond the principles of the behavioural approach by verifying the importance of group relationships and organisation environment transactions in establishing effective work systems. Both approaches apply to researching wellness in relation to job design as a holistic approach to understanding work wellness.

The Job Diagnostics Survey (JDS) is used to diagnose existing jobs prior to work redesign, indicating whether job redesign should proceed and to evaluate the effects of redesign to analyse the impact or effect of redesign (Hackman and Oldham, 1975).

The JDS contains seven three-item scales (Section A) that measure the employee’s perception on each dimension or job characteristic. Section B consists of 14 items that need to be scored on a 7-point Likert scale. Although several sections make up the JDS, only the first two sections are used in this research study. These two sections measure the skills variety, task identity, task significance, autonomy as well as feedback from the job, others and from agents. In the first section the respondents indicate on a seven-point scale the amount of each job characteristic they perceive to be present in their job. In the second section responses are in terms of the accuracy of a number of statements about features of their job (Hackman and Oldham, 1975). A mean score is taken across the three items in each sub-scale with possible scores
of 1 to 7 with the latter indicating the substantial presence of a job characteristic. One item in each sub-scale is reverse scored.

In a first study 1 by Hackman and Oldham (1975) and study 2 by Oldham, Hackman and Stepina (1978) the internal reliability coefficients for the JDS were reported. These were compiled by obtaining the median inter-item correlation for each sub-scale. Both studies indicate that the reliabilities of the JDS were rather similar. Internal reliability, mean and standard deviation scores of these studies can be read from the table below. All calculations that are reflected in Table 4.1 were done by means of factor scores derived from a rotated matrix of the relevant variables and not from the original scores in the data set.

Table 4.1 – Job diagnostics survey data

<table>
<thead>
<tr>
<th></th>
<th>Study</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Internal Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill variety</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>4.49</td>
<td>1.67</td>
<td>0.71</td>
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<tr>
<td></td>
<td>2</td>
<td>4.53</td>
<td>1.57</td>
<td>0.68</td>
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<tr>
<td><strong>Task identity</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>4.87</td>
<td>1.43</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.65</td>
<td>1.44</td>
<td>0.61</td>
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<tr>
<td><strong>Task significance</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>5.49</td>
<td>1.29</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5.49</td>
<td>1.25</td>
<td>0.58</td>
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<tr>
<td><strong>Autonomy</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>4.80</td>
<td>1.43</td>
<td>0.66</td>
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<td></td>
<td>2</td>
<td>4.78</td>
<td>1.39</td>
<td>0.64</td>
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<tr>
<td><strong>Feedback from the job</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>4.98</td>
<td>1.41</td>
<td>0.71</td>
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<td></td>
<td>2</td>
<td>4.81</td>
<td>1.34</td>
<td>0.68</td>
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<td><strong>Feedback from agents</strong></td>
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<tr>
<td></td>
<td>1</td>
<td>3.98</td>
<td>1.65</td>
<td>0.78</td>
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<td></td>
<td>2</td>
<td>4.06</td>
<td>1.58</td>
<td>0.75</td>
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<tr>
<td><strong>Dealing with others</strong></td>
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<td></td>
<td>1</td>
<td>5.29</td>
<td>1.34</td>
<td>0.59</td>
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<tr>
<td></td>
<td>2</td>
<td>5.46</td>
<td>1.31</td>
<td>0.62</td>
</tr>
</tbody>
</table>
The JDS as a measure of job characteristics has by now proven its worth. Items have good face validity, and their inclusion into two separate sections probably help to break response set. The internal reliability of sub-scales has often been found acceptable, but there may be some difficulties with respondents of limited educational attainment, indeed the source publication warns against use of the Job Diagnostic Survey with such respondents. Significant correlations with positive job reactions are well established, although the impact on employee behaviour is more uncertain.

Motivation to use of the JDS as a job design measure as part of a work-wellness study results from the fact that experienced meaning, experienced responsibility and knowledge of actual results do form part of the Job Characteristics Model. In the Job Characteristics Model the core job characteristics are related to the critical psychological states motioned (meaningfulness, responsibility and feedback experienced) in the model. The critical psychological states are not measured in the present research study since various other measures are used to assess individual dispositions. The JDS measures job characteristics as a component of work wellness.

4.2.3 The Orientation to Life Questionnaire (OLQ)

The Orientation to Life Questionnaire (OLQ) is used to measure sense of coherence. By 1987 Antonovsky was convinced that sense of coherence was a very major determinant of maintaining one’s position on the disease/health ease continuum and of movement toward the healthy end. But by that time neither this researcher nor any others have as yet directly subjected this model to empirical testing. A series of in-depth, unstructured interviews was initiated with 51 respondents who complied with the following two characteristics: they experienced a major trauma; and they were coping very well, given the circumstances. From these interviews Antonovsky (1987) developed themes that described the experiences and perceptions of a group with a strong sense of coherence and of a group at the other end of the continuum. This resulted in the identification of the three components of the sense of coherence, namely comprehensibility, manageability and
meaningfulness. Antonovsky (1987) also used the experiences and perceptions of the two groups to formulate phrases that were included in a questionnaire. The rationale of this questionnaire, named the Orientation to Life Questionnaire (OLQ), was that it would measure a respondent’s global orientation to coping as represented by the concept sense of coherence and then specifically also the three key components of comprehensibility, manageability and meaningfulness.

The OLQ consists of 29 items (Antonovsky, 1987). Choices are indicated on a seven-point Likert-scale. One and seven represent the extreme values on the scale, while a rating of four on the scale would indicate that the two statements would be equally applicable to the individual. The OLQ is divided into three subscales, namely:

- **Comprehensibility.** This scale measures the extent to which the world is viewed as ordered, predictable and as clearly observable. Items 1, 3, 5, 10, 12, 15, 17, 19, 21, 24 and 26 measure comprehensibility. Items 1 and 5 need to be reversed when calculating the total score on this scale.

- **Manageability** measures the extent to which people view experiences in their lives as manageable and consists of items 2, 6, 9, 13, 18, 20, 23, 25, 27 and 29. Items 6, 13, 20, 23, 25 and 27 need to be reversed when scored.

- **Meaningfulness** measures the extent to which life is viewed as meaningful and is reflected by items 4, 7, 8, 11, 14, 16, 22 and 28. Items 4, 7, 11, 14 and 16 need to be reversed.

The OLQ allows the respondents to read the instructions themselves. They then answer all 29 items by indicating which point on the scale describes them best. This measure can be administered individually or in groups (Antonovsky, 1987). The OLQ is scored by adding the item scores of each subscale separately to arrive at a score for each subscale. The total score for the OLQ is the sum of the three subscale scores. The total score of the three
subscales of the OLQ gives an indication and global view of the respondent’s sense of coherence. The average score on the OLQ normally fluctuates between 120 and 150 (Antonovsky, 1987). Subscales could also be interpreted individually. A low score on one subscale indicates that the trait is present only to a lesser extent, whereas a higher score is indicative of the presence of the trait to a greater extent (Antonovsky, 1987).

Antonovsky (1987) reported internal consistency and reliability coefficients ranging between 0.84 and 0.93. Kalimo and Vuori (1990) found a reliability coefficient of 0.93 for adults (n = 706) between the ages of 31 and 44 years. Antonovsky (1993) summarised the most recent reliability and validity results in the various studies and indicated that the average alpha coefficient in 29 research studies ranged between 0.91 and 0.85. Consistently high internal reliability has been found in a variety of populations in different culture and language groups. Studies on the test-retest reliability produced coefficients up to 0.97. Antonovsky (1993) concludes that the OLQ is a reliable measuring instrument of sense of coherence.

According to Antonovsky (1987) positive evidence was found for criterion, construct and predictive validity of the OLQ. It has been shown that there is an inverted relationship between OLQ and the Beck Depression Inventory and that there is no meaningful relationship between OLQ and intelligence (Frenz, Carey & Jorgensen, 1993). This would entail that individuals’ sense of coherence is not limited by their intelligence (Frenz, Carey & Jorgensen, 1993).

Antonovsky (1987) stated that the questionnaire could be applied across cultural boundaries. Completed South African studies (Naudé & Rothmann, 2000; Pretorius & Rothmann, 2001) confirm that the questionnaire can also be used across cultural boundaries. The samples used include respondents from different cultural backgrounds. Strümpfer and Wissing confirmed the reliability of the OLQ in their research (1998). Cronbach alpha coefficients were indicative of 0.89 for the total score of the OLQ. In accordance with these findings Naudé and Rothmann (2000) and Pretorius and Rothmann (2001)
found alpha coefficients of 0.88 and 0.93 respectively for the OLQ. The OLQ best supports the operational view of the concept of sense of coherence and it has been shown to have satisfactory reliability and validity coefficients. Sense of coherence is considered as an individual wellness trait and is therefore included in this study.

### 4.2.4 Utrecht Work Engagement Scale (UWES)

Engagement is considered to be the direct opposite of burnout in a working environment. This individual dispositional factor is indicative of total concentration, high energy and occupation when busy with work. The Utrecht Work Engagement Scale (UWES) was developed by Schaufeli, Salanova, Gonzales-Roma and Bakker (2002) to measure engagement. Schaufeli et al., (2002) reported acceptable internal consistency for the UWES. Confirmatory factor-analytical studies confirmed the factorial validity of the UWES (Schaufeli, Bakker, Hoogduin, Schaap & Kladler, 2001; Schaufeli, Salanova, Gonzales-Roma and Bakker, 2002). The findings showed internally consistent results for the three subscales of the instrument. The UWES measures three dimensions of engagement as follows:

- **Vigour** – feelings of energy at work.
- **Dedication** – an attitude of commitment towards the job and the organisation.
- **Absorption** – experiences of being fully focused on the job.

All 17 items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (daily). Six and null represent the extreme values on the scale while a rating of three on the same scale would indicate that the two statements would be equally applicable to the individual.

In a student sample (N = 314) and a sample of employees (N = 619) adequate Cronbach alphas were found as follows: Vigour (6 items), \( \alpha = 0.68 \)
and 0.80; Dedication (5 items) $\alpha = 0.91$ for both samples and Absorption (6 items), $\alpha = 0.73$ and 0.75. In the student sample the value of $\alpha$ could be improved by eliminating three items improving it to $\alpha$ being 0.79. The scales seem to be moderately too strongly related with the mean $r = 0.63$ in the sample of undergraduate students and the mean $r = 0.70$ in the sample of employees. Also the fit of the hypothesised three-factor model with the data was found to be superior to the one-factor solution (Maslach, Schaufeli & Leiter, 2001).

Concerning the study of the UWES in South Africa, two studies regarding the internal consistency and factorial validity could be found. In their study, Strom and Rothmann (2003) found that a re-specified one-factor model fitted the data best in their random, stratified sample of police members in South Africa ($N = 2\,396$). Internal consistencies of the three subscales were determined at 0.78 (Vigour), 0.89 (Dedication) and 0.78 (Absorption). Naude (2003) found internal consistencies of 0.70 (Vigour); 0.83 (Dedication) and 0.67 (Absorption) with the study among emergency workers.

Research by Coetzer (2004) validated the Utrecht Work Engagement Scale (UWES) for the insurance industry in South Africa. This researcher found that structural equation modelling confirmed a three-factor model of engagement consisting of vigour, dedication and absorption. The scales showed acceptable internal consistencies and acceptable construct equivalence of the three factors was confirmed for the Afrikaans, African and English groups. This research also validated the Maslach Burnout Inventory – General Survey (MBI–GS) for the Insurance Industry of South Africa (Coetzer, 2004).

4.2.5 Maslach Burnout Inventory – General Survey (MBI – GS)

Burnout can be distinguished but not divorced from engagement in terms of its structure. It is for this reason that burnout is included in studies of wellness. The most influential development in the field of scientific exploration was the development of the Maslach Burnout Inventory (MBI). Currently this instrument is the most widely used research instrument (over 90% of all
empirical research) to measure burnout (Coetzer, 2004). Three versions of the MBI exist, namely the MBI–GS (General Survey), MBI–ED (Educators) and the MBI–HSS (Human Services Survey). In all of these the dimensions of burnout are differently conceptualised to fit the nature of the job concerned. Three dimensions of burnout are distinguished in the helping professions, namely emotional exhaustion, depersonalisation and low personal accomplishment (Maslach et al., 1996). When used for jobs other than the helping professions the dimensions of burnout are labelled as:

- **Exhaustion** – feelings of work-related fatigue.
- **Cynicism** – an aloof attitude towards work specifically rather than a reference to personal relationships at work.
- **Professional efficacy** – task and social accomplishments at work.

The psychometric properties of the MBI-GS are satisfactory for the use in research studies. Internal constancies (Cronbach’s alpha coefficients) reported by Schaufeli et al., (1996) varied from 0.87 to 0.89 for Exhaustion and from 0.73 to 0.84 for Cynicism. In a sample of senior managers in a manufacturing industry, Rothmann and Jansen van Vuuren (2002) found satisfactory alpha coefficients: Exhaustion as 0.79; Cynicism as 0.84 and Professional Efficacy as 0.84. Rothmann and Malan (2003) found higher alphas (Exhaustion = 0.89; Cynicism = 0.76 and Professional Efficacy = 0.85) while Kruger, Veldman, Rothmann and Jackson (2002) found lower alphas for Cynicism (0.72) and Professional Efficacy (0.69). Storm and Rothmann (2003) found alpha coefficients of 0.88 (Exhaustion), 0.78 (Cynicism) and 0.79 (Professional Efficacy) in a sample of 2 396 police officers in South Africa.

All the surveys were collated into one research battery and distributed during the research procedure. The purpose of the measuring battery was explained to participants. The instructions were given in an easy to understand format where after the participants completed all surveys in the measuring battery. This specific procedure that was followed is discussed in the next section.
4.3 RESEARCH PROCEDURE

At first a literature study was conducted and individual dispositions, organisational factors and wellness were conceptualised into a preliminary work-wellness model. A measuring battery was compiled, based on the literature study, and a voluntary sample was involved. The sample was informed about the purpose of the study, the method and the procedure that would be followed and they were asked for their consent to participation. The measuring battery was administered and the data analysed. The sample was given feedback on their results and the data was integrated into one holistic work-wellness model. Based on the results of the data analyses, certain conclusions are made regarding the goodness of fit of the data to the model. Finally conclusions and recommendations are made to the organisation and for future research.

4.4 STATISTICAL ANALYSIS

Statistical analysis has been carried out with the help of the SAS program (SAS Institute, 2000). Descriptive statistics are used to analyse the data. Data examination leads to better predictions and more accurate assessment of dimensionality (Hair et al., 2003).

Factor analysis is a statistical method, which is used in the analysis of tables, or matrices, of correlation coefficients. Inspection of any large matrix of correlation coefficients shows immediately that no simple intuitive interpretation of the pattern of relations among the variables is possible (Ferguson & Takane, 1989). Factor analysis is a statistical method of analysis aimed at reaching a meaningful interpretation of the ways in which a set of the variables is related. This process focuses on the relationships within a single set of variables and is used to reduce the dimensionality of the set of variables into a much smaller number of unique and independent variables (Harris, 1975). Correlation coefficients are converted into factor loadings or weights that are attached to factors that show commonality. Therefore factor analysis is concerned with the discovery and description of a reduced
structure in complex patterns of relations (Ferguson & Takane, 1989). In the first step of an explorative factor analysis the correlation coefficient matrix with the loadings or weights is analysed and resultant descriptive statistics are calculated. Secondly the results of all factor analyses as first-order factors are reported. Cronbach alpha coefficients and inter-item correlation coefficients are used to assess the reliability and validity of all the instruments (Clark & Watson, 1995). The descriptive statistics of the mean (M), standard deviation (SD), skewness and kurtosis were determined for the questionnaires and their factor structures. Cronbach alpha coefficients (α) were calculated in each case to determine the internal consistency of the measuring instruments.

Means, standard deviations, skewness and kurtosis are techniques used to describe characteristics of a dataset and to compare results. The mean is the best-known measure of central tendency that tells what sets of measures are like on average. The standard deviation indicates the distances that describes the distribution of the individual scores from the mean; the higher the standard deviation, the greater the distances, on average, above or below the mean (Steyn, Smit, Du Toit & Strasheim, 1995). Two components of normality are calculated, namely skewness and kurtosis.

Skewness is a descriptive indication of symmetry, which gives and indication of the positive or negative skewness of a population. The value reported for skewness equals zero if the distribution is normal. To determine whether or not the value of skewness for a variable differs significantly from zero, it is compared against the standard error for skewness. The standard error for skewness is calculated by taking the square root for 6 divided by the sample size (Tabachnick & Fidell, 2001).

As a rough guide, skewness values more than twice its standard error is taken to indicate a departure from symmetry. In this research, the standard error for skewness is determined as 0.10. Therefore, a variable with a skewness value larger than 0.20 (twice the size of the standard error of skewness) would be regarded as skewed. A positively skewed distribution has relatively few large values and tails off to the right, and a negatively skewed distribution has
relatively few small values and tails off to the left. Skewness values falling outside the range of −1 to +1 indicate a substantially skewed distribution (Hair et al., 2003).

Kurtosis measures the peak or flatness of a distribution when compared with the normal distribution. A distribution is either too peaked (with short, thin tails) or too flat (with long, thick tails) (Tabachnick & Fidell, 2001). A negative value indicates a relatively flat distribution.

The Cronbach alpha (α) coefficients are computed to assess the internal consistency reliability of the measuring instruments and items that are used in the study. This index is indicative of the extent to which all the items in the measuring instruments are measuring the same characteristic, and that the set of variables are consistent within what it is intended to measure (Huysamen, 1994). If multiple measures are taken the reliable measures will all be very consistent in their values. It differs from validity in that it relates not to what should be measured but instead to how it is measured. Cronbach’s alpha as the measure of reliability ranges from 0 to 1, with values of 0.60 to 0.65 deemed the lower limit of acceptable.

Inter-item correlation coefficients are used to determine whether the internal consistencies of the constructs are not too high, so that they affect the validity. Clark and Watson (1995) specified inter-item correlations between 0.15 and 0.50 as acceptable.

The Pearson product-moment and Spearman correlation coefficients are used in this study to determine the extent to which one variable is related to another variable. Spearman correlations were used in the case of variables that showed skewness. The correlation coefficients are based on the assumption that in the case where two variables fluctuate simultaneously, a correlation or relationship exists between them (Kerlinger & Lee, 2000). If a relationship exists between variables, it can be termed either as a positive or negative relationship. In the case where a decrease in the measurement of one variable is in association to a decrease in the other variable, or where an
increase in the measurement of one variable is associated to an increase in
the other variable, it can be termed a positive relationship. A negative
relationship occurs when a decrease in the measurement of one variable
leads to an increase in the other variable (Ferguson, 1981). The correlation
coefficient varies between –1.00 and +1.00. The closer the absolute value of a
correlation coefficient (r) to –1.00 or +1.00, the more accurate the prediction
that one variable is related to another variable (Ferguson, 1981).

Because a non-probability sample was used in this research, effect sizes
(rather than inferential statistics) are used to decide on the significance of the
findings. According to Cohen (1988) the following cut-off points in terms of the
correlation coefficient are recognised as practically significant (independent of
the direction of the relationship):

- $r = 0.10$: small effect
- $r = 0.30$: medium effect
- $r = 0.50$: large effect

For the purposes of the present study, $r$-values larger than 0.30 (medium
effect) are considered practically significant.

In order to further explain the relationships between the individual
dispositional constructs (sense of coherence, engagement and burnout) and
the positive job characteristics with the wellness of employees, canonical
correlations are determined. Canonical correlation analysis is a statistical
technique that is concerned with the relationship between two sets of
variables. The measure of the strength of the relationship in canonical
correlation analysis is expressed as a canonical correlation coefficient
between two sets of multiple independent variables and multiple dependent
variables (Hair, Anderson, Tatham & Black, 1998). Canonical correlation is
considered to be a descriptive technique rather than a hypothesis-testing
procedure.
Principle-axes factor analysis mainly uses matrix algebra to convert row-by-column matrices of different orders. This variation of factor analysis is usually applied to a matrix of inter-correlations, rather than to a matrix of co-variances (Overall & Klett, 1972). A factor structure is simple and meaningful to the extent that most variables relate highly to only one factor and each factor can be as representing that which is measured in common by a relatively small number of variables.

Factor analysis generally requires five steps. It, first of all, starts off with a data set of individual scores or measurements that are associated with m variables (m = the number of original variables). The statistical method assumes that any set of m original variables contains commonalities that might be used to reduce it into a simplified structure. Secondly, the set of individual scores derived from the m variables are transformed into an m x m matrix of inter-correlations having m rows and m columns. Each element in this m x m matrix contains a correlation coefficient between two particular variables from the original set. In the third step this matrix is used to calculate m Eigen values (or λ values) that estimate the occurrence of commonality in the original variables. Fourthly, these Eigen values are used to convert the m x m matrix of inter-correlations into a new unrotated m x n (m ≥ n) factor matrix containing m rows, n columns and m x n factor loadings. Fifthly, some method of axis rotation is used to convert the unrotated m x n matrix into a rotated m x n matrix that eases the interpretation of the factor structure that underlies the original set of variables. In both the unrotated and rotated matrices the n columns represent the underlying factor structure, the m rows the original set of variables and the m x n factor loadings describe the weight that each original variable carries in the underlying factor structure.

Structural equation modelling (SEM) is a statistical method that explores the plausibility of behavioural and other models that are implied by empirical designs. SEM analysis requires logical reasoning, application of path diagrams that demonstrate assumed relationships between variables, and calculation of structural equations consisting of constants, regression weights, inter-correlations, error measurement and latent variables that assess the
plausibility of a particular model. SEM analysis produces goodness-of-fit statistics that test the plausibility of models. In the present research project structural equation modelling was done by the AMOS procedure (Arbuckle, 1999). This method checks for confounding variables in a relationship and assesses the contribution of each variable to the work-wellness model by means of a maximum likelihood method.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1999) are used to check for confounding variables in a relationship and to determine the contribution of each variable to the work-wellness model using the maximum likelihood method. SEM, in general, is a statistical method that requires a confirmatory (that is a hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). All tests of structural equation modelling require sets off parameters that tests a logical order that increases restrictions in every step and in doing so, improves goodness of fit. Several aspects of structural equation modelling distinguish it from older generations of multivariate procedures (Byrne, 2001):

- Firstly it takes a confirmatory rather than an explanatory approach to data analysis. By demanding that the pattern of inter-variable relations be specific, SEM lends itself well to the analysis of data for inferential purposes.
- Secondly, although traditional multivariate procedures are either assessing or correcting for measurement error, SEM provides precise estimates of these error variance parameters.
- Thirdly, SEM procedures can incorporate both unobserved (latent) and observed variables.

Therefore hypothesised relationships are tested empirically for goodness of fit with all the variables in the data set. Goodness-of-fit tests determine if the model being tested should be accepted or rejected. It is imperative to examine several fit indices when evaluating a model and never to rely solely on a single index. Jaccard and Wan (1996) recommend the use of at least three fit
tests, while Kline (1998) recommends at least four. Among the fit indices produced by the AMOS programme is the chi-square statistic $\chi^2$, which is a test of absolute fit of the model. The $\chi^2$ tests the hypothesis that an unconstrained model fits the covariance/correlation matrix as well as the given model. The $\chi^2$ should not be significant if there is a good model fit, while a significant $\chi^2$ indicates lack of satisfactory model fit.

Jöreskog and Sörbom (1993) suggest that any $\chi^2$ value may be considered more appropriately as a badness-of-fit rather than as a goodness-of-fit measure in the sense that a small $\chi^2$ value is indicative of good fit. The statistic and the degrees of freedom (the difference between the number of distinct parameters to be estimated) are usually applied as tests of absolute fit. However, Kline (1998) and Neilands (2000) have cautioned that the $\chi^2$ statistic is too sensitive to sample size for it to be interpreted as a significant test. They have argued that the $\chi^2$ statistic usually becomes significant even when the difference between observed and model implied covariance is slight. A large $\chi^2$ relative to the degrees of freedom indicates a need to modify the model to fit the data better.

The absolute goodness of fit indices calculated was the $\chi^2$ goodness-of-fit and the Root Mean Square Error of Approximation (RMSEA). Non-significant values indicate that the hypothesised models fit the data, and the RMSEA values > 0.05 and < 0.08 are indicative of an acceptable fit (Cudeck & Brown, 1993). Marsh, Balla and Hau (1996) recommend that relative goodness of fit indices be used in addition to RMSEA. In the present study the Normed Fit Index (NFI), Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) were also used. Not all the indices of fit are commonly used, therefore those chosen for consideration in this study are the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI) the Parsimony Goodness of Fit Index (PGFI), the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA).
The Goodness of Fit Index (GFI) indicates the relative amount of variances/co-variances in the sample predicted by the estimates of the population. The Adjusted Goodness of Fit Index (AGFI) is a measure of the relative amount of variance accounted for by the model corrected for the degrees of freedom in the model relative to the number of variables under consideration. The values of these indices range from 0 (which indicating a poor fit) to 1 (indicating perfect fit) (Schumacher & Lomax, 1996; Sobolewski & Doran, 1996). The GFI is analogous to a squared correlation in so far as it indicates that the proportion of the observed covariance explained by the model-implied co-variances. The AGFI, which is calculated from the GFI, includes an adjustment for model complexity (Sobolewski & Doran, 1996; Kline, 1998). The GFI is a relative measure of how well the data fits the model (Sobolewski & Doran, 1996). Recommended values should be greater than 0.90.

Parsimony Goodness of Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik, James, Van Altime, Bennett, Lind & Stillwell, 1989). The PGFI is a variant of GFI and takes into account the complexity (i.e. number of estimated parameters) of the hypothesised model in the assessment of overall model fit and provides a more realistic evaluation of the hypothesised model. Mulaik et al. (1989) suggested that indices in the 0.90s accompanied by PGFI in the 0.50s are not unexpected, although values > 0.80 are considered to be more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to assess global model fit and varies from 0 to 1, where 1 is a perfect fit. Marsh, Balla and Hau (1996) suggest that this index is relatively insensitive to sample size. The Comparative Fit Index (CFI) is an incremental fit index that describes the proportion of the improvement of the overall fit of the restricted model relative to the independence (null) model in the determination of goodness of fit (Kline, 1998; Neilands, 2000). It also varies from 0 to 1. CFI values close to 1 indicate a very good fit, and values above 0.90 an acceptable fit. The Tucker-Lewis Index (TLI) is a relative measure of co-variation explained by the model that is specifically developed to assess factor models (Tucker & Lewis, 1973). The TLI has values ranging
from 0 to 1, indicating lack of fit to perfect fit respectively. Hu and Bentler (1999) and Neilands (2000) recommend a TLI value of 0.95 or higher. However, Schumacher and Lomax (1996) contend that values close to 0.90 reflect a good model fit. For these fit indices, it is more or less generally accepted that a value less than 0.90 indicate that the fit of the model can be improved (Hoyle, 1995).

The Root Means Square Error of Approximation (RMSEA), with its lower and upper confidence interval boundaries, is another valuable fit index that is commonly reported. The RMSEA estimates the overall amount of error; it is a function of the fitting function value relative to the degrees of freedom. RMSEA is one of the fit indices less affected by sample size. By convention, there is a good model fit if RMSEA is less than or equal to 0.05. There is adequate fit if RMSEA is less than or equal to 0.08. More recently, Hu and Bentler (1999) and Neilands (2000) have suggested a value of 0.06 to be indicative of a good fit between the hypothesised model and the observed data.

MacCallum, Browne and Sugaurara (1996) elaborated on cut-off points and noted that RMSEA values ranging from 0.08 to 0.10 indicate medium fit, and those greater than 0.10 indicate poor fit. RMSEA is a popular measure of it, partly because it does not require comparison with a null model and thus does not require the researcher to propose a plausible model in which there is complete independence of the latest variables as does, for instance the CFI.

Schumacher and Lomax (1996) and Kline (1998) have each argued that there is no straightforward answer to what constitutes good fit in SEM. Furthermore, Kline (1998) had argued that good fit might be easy to achieve. However, it must be accompanied by meaningful model-data correspondence. It is possible to find several favourable values of overall fit indices, but specific portions of the model might not be fitting the data well. Given the lack of consensus regarding the best measure of fit, the more criteria a model satisfies, the better its fit.
4.5 FORMULATION OF HYPOTHESES

In conjunction with the specific aims of the research, the following research hypotheses could be formulated. Since the null hypothesis is the direct inverse of the alternative hypothesis, only the alternative hypotheses are stated:

H1: Practically significant positive relationships confirm all the wellness factors of the 5F-Wel for employees in an insurance organisation.

H2: Practically significant positive relationships confirm all the job characteristic factors, of the JDS for employees in an insurance organisation.

H3: Practically significant positive relationships confirm all the sense of coherence factors, of the OLQ for employees in an insurance organisation.

H4: Practically significant positive relationships confirm all the burnout factors, of the MBI for employees in an insurance organisation.

H5: Practically significant positive relationships confirm all the engagement factors, of the UWES for employees in an insurance organisation.

H6: Practically significant positive relationships exist between all wellness factors, motivational job characteristics, the individual disposition of sense of coherence and the psychological state of engagement as well as a practically significant negative relationship with the burnout state of employees in an insurance organisation.

4.6 CHAPTER SUMMARY

In this chapter the research design and characteristics of the sample used in this study were described. The measuring battery compiled and used, were discussed in detail and the research procedure was briefly explained. The statistical analyses conducted in the study were outlined and the hypotheses were set out. Chapter 5 address the characteristics of the research sample.
CHAPTER 5

STUDY POPULATION

In this section the characteristics of the population, the sampling method and characteristics of the sample are of importance.

5.1 CHARACTERISTICS OF THE STUDY POPULATION

The study population used in the present research consisted of employees in a life insurance company in South Africa. The total staff count for the organisation is 2 523 employees. Participants in the study were represented in terms of race, marital status, gender, qualifications and years of service.

5.2 CHARACTERISTICS OF THE SAMPLE

In this study an availability sampling strategy was used to compose the sample. None of the participants were previously involved in wellness studies and they volunteered to partake in the present research. A total of 673 employees (26.70% of the total staff count) were included into the sample.

Client services employees were the business area that involved most of the participants in the study. Employees that are married (377) form about 50% and woman formed 63% of the sample. Whites were best represented in the sample with less Coloured, African and Indian employees participating. This spread represent and reflects the characteristics of the total population. The organisation is further well represented in terms Afrikaans, English and African speaking employees. In terms of the age distribution were most participants in the twenty-six to thirty (191) age group with thirty-six to forty (171) were the second biggest age group. The characteristics of the sample are given in the Table 5.1 below.
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From Table 5.1 it can be seen that some of the biographical and surveyed items are missing. Where the respondents did not complete a certain section of the research questionnaires these missing values are referred to in the table as the number of respondents who did not answer a specific question.

5.3 CHAPTER SUMMARY

The research population and the characteristics of the research sample are discussed in this chapter. This precedes the research results and demonstrates the biographical composition of the sample.

Chapter 6 deals with the research results of the empirical study. Data is analysed and feedback is given to the respondents. Factor analysis is done to demonstrate the composition of factor structures, descriptive statistics are reported and structural equation modelling are discussed. Structural equation modelling indicates goodness of fit statistics between the data and the conceptual models for each of the independent models as well as for the holistic work-wellness model. This part of the study deals with the empirical research that was conducted.
CHAPTER 6

RESULTS

In this chapter the results of the empirical study are reported and discussed. Firstly, the descriptive statistics and the reliability coefficients of the measuring instruments are given. The statistical and practical significance of the results is given where applicable.

The impact and relationship between the measuring instruments (measured factor structures) and the demographic aspects of the study are reported (Tabachnick & Fidell, 2001). The relationship between wellness, the job design, sense of coherence and the psychological states of burnout and engagement and their interrelated relationships in an insurance organisation are modelled, with the use of structural equation modelling to test for goodness of fit.

6.1 DESCRIPTIVE STATISTICS, RELIABILITY AND GOODNESS OF FIT OF THE MEASURING INSTRUMENTS

The descriptive statistics and reliability of the measuring instruments form part of the multivariate analysis methods used to analyse the data. It stresses that multivariate analysis methods will influence not only the analytical aspects of research but also the design and approach to data collection for decision making and problem solving. Although multivariate techniques share many characteristics with their univariate and bivariate counterparts, several key differences arise in the transition to a multivariate analysis, when the techniques mentioned are applied (Hair, Anderson, Tatham & Black, 2003).

The descriptive statistics of the mean (M), standard deviation (SD), skewness and kurtosis were determined for the questionnaires and their factor structures. Cronbach alpha coefficients (α), were calculated in each case to determine the internal consistency of the measuring instruments.
In the second phase of the data analysis the factors are used in an explorative modelling study. Maximum likelihood estimation methods were used and the goodness of fit of the models was evaluated using absolute and relative indices. The absolute goodness of fit indices calculated was the $\chi^2$ goodness-of-fit and the Root Mean Square Error of Approximation (RMSEA). Non-significant values indicate that the hypothesised models fit the data, and the RMSEA values > 0.05 and < 0.08 are indicative of an acceptable fit (Cudeck & Brown, 1993). Marsh, Balla and Hau (1996) recommend that relative goodness of fit indices needs to be used in addition to the RMSEA. The Normed Fit Index (NFI), Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) were used in addition. For these relative fit-indices, as a rule of thumb, values of 0.90 or higher are considered as indicating a good fit (Hoyle, 1995).

6.1.1 Descriptive statistics, reliability and goodness of fit of the 5 Factor Wellness Survey (5F–Wel)

The 5 Factor - Wellness Survey was included to measure the degree to which employees in this study complied with the theoretical definition of wellness, as it is defined by *The Indivisible Self: An Evidence-Based Model* (Meyers & Sweeney, 2005). The reported 5F-Wel descriptive statistics is the first South African factor analysis to be done. Previous alpha coefficients and inter-item correlation coefficients of a South African study could not be found.

All the calculations were done by means of the SPSS Windows program to determine the factor structure (Ferguson & Takane, 1989). The extraction method used to determine the factor structure is that of principal-axis factoring. Oblimin with Kaiser normalisation was used as a rotation method. Initial factor analysis was explorative in nature (Clark & Watson, 1995). An exploratory factor analysis found sixteen wellness factors and three contextual factors. Table 6.1 indicates the rotated factor structure with the loadings on each factor.
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<td>0.24</td>
</tr>
</tbody>
</table>
All results derived from the first factor analysis are reported as the underlying factor structure in Table 6.1. It can be seen from the table above that the 91 items of the 5F-Wel loaded onto 19 factors (16 wellness factors and 3 contextual factors). Ten factors are valid and reliable with $\alpha$ values exceeding 0.65. This statistical result can be interpreted as follows:

- **Factor I – Self-worth** is formed out of items that suggest acceptance and satisfaction with the self. This factor consists of items 44, 38, 36 and 60.
- **Factor II – Exercise** consists of items 53, 9, 62, 72 and 33 and has to do with regular and frequent physical exercise activities.
- **Factor III – Spirituality** has to do with spiritual beliefs, religious activity and spiritual growth. Items that loaded onto this factor are 51, 35, 69, 37 and 65.
- **Factor IV – Stress Management** measures coping and resilience with stress with items 2, 18 and 50.
- **Factors V – Love** is formed out of items 52, 26, 73, 49 and 47. This factor measures growth stimulating, intimate, secure and lasting relationships.
- **Factor VI – Gender Identity** measures positive attributions relating to gender identification as a source of strength and support. Items 6, 10 and 22 loaded onto this factor.
- **Factor VII – Realistic Beliefs** is formed by items 12, 28, 46, 56 and 39. Being in touch with reality, setting realistic expectations and drawing fair conclusions are measured.
- **Factor VIII – Leisure** is clustered in the factor analysis as items 41, 1, 61, 34 and 23. Leisure refers to the amount of relaxation, absorption in the activity and quality of leisure that one experiences.
- **Factor IX – Humour** is reflected in items 4, 54, 42 and 21. This factor measures positive humour and the ability to laugh at oneself.
- **Factor X – Intelligence** refers to comprehension, problem solving, taking control, goal attainment, creativity and skill utilisation. Items that measure intelligence are 27, 48, 32, 43, 20, 30, 7, 57 and 59.
• Factor XI – **Nutrition** is measured by items 3, 14, 5, 68 and 63. This factor measures the perception of quality food, vitamins, minerals and fibre in the diet.

• Factor XII – **Emotion** clustered around items concerned with regular and appropriate expression of emotion. This factor consists of items 13, 40 and 71. Item 71: “I am proud of my cultural heritage” can be used as an emotional item since pride is mentioned. This item loaded onto cultural identity in previous studies.

• Factor XIII – **Friendship** is clustered in one factor by items 11, 25, 70, 8, 55 and 66. This factor measures experiencing support from others, experiencing emotion with others (item 66), enjoying leisure without guilt (item 55) and consuming moderate amounts of alcohol (item 8).

• Factor XIV – **Self-care** refers to the degree to which physical health is protected by preventative actions and is measured by items 64, 15 and 19.

• Factor XV – **Work** refers to the satisfaction with work; the use of abilities and skills as well as the autonomy enjoyed at work. It consists of items 24, 29, 58 and 17.

• Factor XVI – **Social Identity** is loaded on items 45, 31 and 16. This factor refers to gender and cultural identification as a source of strength. Item 57 (gender identity): “I feel a positive identity with others of my gender” did not load significantly onto any of the factors.

• Factor XVII – **Local Safety** is a contextual variable that measures feelings of security in the home, neighbourhood, work and in one’s daily life. Items 78, 76, 79, 77, 74 and 75 are used to form this factor. Item 74 as a general life satisfaction item also loaded onto this factor.

• Factor XVIII – **Institutional Concern** measured by items 88, 82, 85, 81, 83 and 91 indicate attributions towards the government, education, future perspective, other cultures and change as contextual wellness factors. Item 86 (global): “I watch TV less than two hours each day” did not load usefully onto any of the factors.
• Factor XIX – **Personal Attributions** measured by items 90, 80, 89, 87 and 84 refer to items related to personal contributions towards happiness and wellness.

Table 6.2 – First order descriptive statistics for the various items of the 5 Factor Wellness Survey (5F-Wel)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>13.65</td>
<td>1.77</td>
<td>-0.25</td>
<td>-0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>II</td>
<td>10.45</td>
<td>3.11</td>
<td>0.02</td>
<td>-0.65</td>
<td>0.81</td>
</tr>
<tr>
<td>III</td>
<td>8.01</td>
<td>2.86</td>
<td>1.22</td>
<td>1.96</td>
<td>0.86</td>
</tr>
<tr>
<td>IV</td>
<td>9.36</td>
<td>1.52</td>
<td>-0.38</td>
<td>1.24</td>
<td>0.79</td>
</tr>
<tr>
<td>V</td>
<td>7.06</td>
<td>2.10</td>
<td>0.99</td>
<td>0.56</td>
<td>0.77</td>
</tr>
<tr>
<td>VI</td>
<td>6.62</td>
<td>1.04</td>
<td>1.00</td>
<td>2.85</td>
<td>0.64</td>
</tr>
<tr>
<td>VII</td>
<td>12.10</td>
<td>2.32</td>
<td>-0.13</td>
<td>0.30</td>
<td>0.60</td>
</tr>
<tr>
<td>VIII</td>
<td>9.36</td>
<td>2.51</td>
<td>0.38</td>
<td>0.24</td>
<td>0.73</td>
</tr>
<tr>
<td>IX</td>
<td>1.88</td>
<td>0.61</td>
<td>0.31</td>
<td>0.66</td>
<td>0.58</td>
</tr>
<tr>
<td>X</td>
<td>27.97</td>
<td>2.61</td>
<td>0.12</td>
<td>-0.12</td>
<td>0.64</td>
</tr>
<tr>
<td>XI</td>
<td>10.41</td>
<td>3.08</td>
<td>0.21</td>
<td>-0.28</td>
<td>0.82</td>
</tr>
<tr>
<td>XII</td>
<td>7.31</td>
<td>1.10</td>
<td>-0.03</td>
<td>0.47</td>
<td>0.47</td>
</tr>
<tr>
<td>XIII</td>
<td>10.72</td>
<td>2.57</td>
<td>0.28</td>
<td>-0.22</td>
<td>0.57</td>
</tr>
<tr>
<td>XIV</td>
<td>8.81</td>
<td>1.46</td>
<td>-0.37</td>
<td>0.06</td>
<td>0.18</td>
</tr>
<tr>
<td>XV</td>
<td>11.77</td>
<td>2.03</td>
<td>-0.39</td>
<td>0.68</td>
<td>0.68</td>
</tr>
<tr>
<td>XVI</td>
<td>5.51</td>
<td>1.54</td>
<td>0.40</td>
<td>0.32</td>
<td>0.56</td>
</tr>
<tr>
<td>XVII</td>
<td>11.82</td>
<td>2.81</td>
<td>0.99</td>
<td>0.56</td>
<td>0.75</td>
</tr>
<tr>
<td>XVIII</td>
<td>12.55</td>
<td>2.54</td>
<td>0.12</td>
<td>-0.12</td>
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<tr>
<td>XIX</td>
<td>9.94</td>
<td>2.01</td>
<td>-0.03</td>
<td>0.47</td>
<td>0.40</td>
</tr>
</tbody>
</table>

The statistical analysis was carried out with the SPSS program. Cronbach alpha coefficients were used to assess the reliability and validity of the 5F-Wel (Clark & Watson, 1995). From the descriptive statistics in Table 6.2 it was found that the factor scores on the 5F–Wel were acceptable relating to skewness and kurtosis (Tabachnick & Fidell, 2001). From the table it can also
be concluded that some of the factors are reliable and valid in measuring wellness for employees in a life insurance organisation in South Africa. Contextual factors that were included in Table 6.1 and Table 6.2 were factors 17, 18 and 19, while factors 1 to 16 are wellness factors.

In order to test the data for goodness of fit against the 5F-Wel theories, structural equation modelling (SEM) methods were used. Hypothesised relationships are tested empirically for goodness of fit with the wellness data. According to Jöreskog and Sörbom (1993) the chi-square statistic and several other goodness of fit indices summarise the degree of correspondence between implied and observed covariance matrices. Byrne (2001) suggested goodness of fit indices that take a more pragmatic approach to the evaluation process. The chi-square ($\chi^2$), the $\chi^2$/degrees of freedom ratio (CMIN/DF), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were used in the process. This goodness of fit indices for the wellness model is reported in Table 6.3 below.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 19 factors</td>
<td>16 828.18</td>
<td>4.32</td>
<td>0.27</td>
<td>0.32</td>
<td>0.33</td>
<td>0.70</td>
</tr>
</tbody>
</table>

It can be seen from Table 6.3 that the RMSEA indicates that the data show good fit to the model. Browne and Cudeck (1993) regard this value as a reasonable error of approximation. The $\chi^2$ based goodness of fit statistic is sensitive to the dimension of the moment matrix that results in an unreliable measure of model fit with a large set of data. This sensitivity to the sample size is significantly different from those expected on a given theory and will therefore be rejected as statistically untenable. Sometimes a non-significant chi-square value is desired in order to prove the null hypothesis. The NFI
value (0.27) indicates that it can be improved substantially. A NFI of 1 will indicate a perfect fit. The Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) indicate poor fit indices with values not < 0.90 (Arbuckle and Wothke, 1999). The most important test (RMSEA) indicates a good fit with 0.07 as value. Browne and Cudeck (1993) state that a value of 0.08 or less for the RMSEA indicates a reasonable error of approximation. With the 5F–Wel model as theoretical reference the final wellness model is given in Figure 6.1. This model is an explorative wellness model with good fit statistics as one part of the development of a holistic work-wellness model.

The structural model in Figure 6.1 showed that all sixteen wellness factors as well as the three contextual factors found in the factor analysis can be used as an independent wellness model for the insurance organisation. This model and data have been tested with AMOS basic and validated good fit to be used.

Conclusions in terms of the results on this section of the study can be made based on the statistics from the factor analysis and the goodness of fit statistics. The factor analysis proved that love, leisure, local safety, institutional concern, nutrition, social identity, stress management, spirituality, exercise and self-worth are reliable factors measured by the 5F–Wel. Goodness of fit statistics indicates good fit (RMSEA) for a wellness model in an insurance organisation. However some modification indices might be applied to improve the chi-square value, NFI, the Tucker-Lewis Index and the Comparative Fit Index (CFI). Subsequently this validates hypothesis 1 with the confirmation of practically significant positive relationships between all the wellness factors for employees in an insurance organisation. A path diagram of the independent wellness model demonstrates these relationships in Figure 6.1 below.
Figure 6.1 – Wellness model

Wellness

- Spirituality
- Exercise
- Self-worth
- Love
- Gender Identity
- Leisure
- Humour
- Intelligence
- Nutrition
- Realistic Beliefs
- Stress Management
- Emotion
- Friendship
- Self-care
- Work
- Social Identity
- Local Safety
- Personal Attributions
- Institutional Concern
6.1.2 Descriptive statistics, reliability and goodness of fit of the Job Diagnostics Survey (JDS)

The Job Diagnostics Survey (JDS) is used to diagnose existing jobs prior to work redesign, indicating whether job redesign should proceed and also to evaluate effects of redesign to analyse the impact or effect of redesign (Hackman and Oldham, 1975). The Job Diagnostics Survey (JDS) was used to measure the characteristics of the job as an organisational factor that can relate to work wellness.

The statistical analysis was carried out with the SPSS program to determine the factor structure and which items were to be loaded onto what factor. Results regarding the factor analysis for the Job Diagnostic Survey (Section one and two) are reported below. A factor analysis on the original scales indicated skills variety ($\alpha = 0.58$), task identity ($\alpha = 0.38$), task significance ($\alpha = 0.42$), autonomy ($\alpha = 0.45$), feedback from the job ($\alpha = 0.42$), feedback from agents ($\alpha = 0.62$) and dealing with others ($\alpha = 0.33$). All these reliability coefficients are generally unsatisfactory Cronbach alphas measuring job characteristic factors. Values greater than 0.60 reflect reliable Cronbach alphas. This results lead to an exploratory factor analyses of the JDS that have yielded 6 job characteristic factors represented in Table 6.4.

The JDS was analysed in order to determine the factor structure of the instrument. All the calculations were done by means of the principle-axis factor extraction method to determine the factor structure. Oblimin with Kaiser normalisation was used as a rotation method. This factor analysis found six job characteristic factors. Table 6.4 indicates the factor structure with the loadings on each factor.
Table 6.4 – First-order rotated factor structure for the various items of the JDS

<table>
<thead>
<tr>
<th>Factor/Item</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
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<tbody>
<tr>
<td>9</td>
<td>0.67</td>
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<td>8</td>
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<td>-0.31</td>
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<tr>
<td>21</td>
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<td>0.40</td>
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<td>10</td>
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<td>0.27</td>
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<tr>
<td>14</td>
<td>0.31</td>
<td>-0.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>18</td>
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<td></td>
<td>-0.53</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>0.25</td>
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<td>-0.29</td>
<td>-0.21</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>1.03</td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td>0.23</td>
<td></td>
<td></td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
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<td></td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.21</td>
<td></td>
<td>0.26</td>
<td>-0.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>0.23</td>
<td></td>
<td></td>
<td>0.31</td>
<td></td>
</tr>
</tbody>
</table>

Results from the factor analysis indicated in Table 6.4 show that the items loaded on six factors. Some items need to be revised and fitted to the best factor since they loaded onto more than one factor. These are weights, which attach to the common-factor scores (Ferguson and Takane, 1989). Three of
the factors are valid and reliable (α) first-order factors and the results can be interpreted as follows:

- Factor I – **Interdependence** (α = 0.37) has to do with items 1 and items 2 and 8 of section two (dealing with others) as well as item 5 (task significance).
- Factor II – **Task Insignificance** (α = 0.52) clustered all the items concerned with job characteristics that reflect a low-level job. This factor consists of items 3 (task identity), 7 (feedback), 9 (autonomy), 12 (job feedback) and 14 (task significance) from section two.
- Factor III – **Feedback** (α = 0.68) is formed out of items 6 (feedback from agents), item 4 in section two (job feedback) and item 10 in section two (supervisory feedback). This factor measures the perception of overall performance feedback. The item: “Just doing my work tasks required by the job provide many chances for me to figure out how well I am doing.” loaded onto factor I and III. The researcher found it meaningful to let this item relate to factor III as a feedback item.
- Factor IV – **Task Significance** (α = 0.67) consists of item 3 (task identity) and item 7 (job feedback) of section one and items 1 (skill variety) and 11 (task identity) of section two. The item: “The job requires me to use a number of complex or high-level skills.” loaded with greater weight onto factor VI but the researcher found it meaningful to let it relate with factor IV. It measures high-level complexity as a job characteristic.
- Factor V – **Empowerment** with α = 0.66 is formed out of items that suggest autonomy, skill variety and dealing with others. This factor consists of items 2, 6 (section one) and 13 (section two).
- Factor VI – **Simplicity** (α = -0.09) is clustered in the factor analysis as item 4 (job feedback) of section one and items 5 (repetitive job) and 6 (working with others) of section two. This factor describes low level, repetitive and boring job characteristics. The item: “To what extent does doing the job itself provide you with information about your work
performance? That is, does actual work itself provide clues about how well you are doing – aside from the feedback co-workers or supervisors provide?” loaded onto factors I and VI as well. The researcher considers this item to be more relevant to load onto factor IV.

Descriptive statistics for the various factors of the JDS are reported below. These results indicate the mean (M), standard deviation (SD) and Cronbach alpha (α) as well as skewness and kurtosis of the factors in Table 6.5.

Table 6.5 – Descriptive statistics for the various factors of the JDS

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>23.46</td>
<td>3.09</td>
<td>-0.64</td>
<td>0.09</td>
<td>0.37</td>
</tr>
<tr>
<td>II</td>
<td>18.06</td>
<td>4.61</td>
<td>0.40</td>
<td>0.39</td>
<td>0.52</td>
</tr>
<tr>
<td>III</td>
<td>13.24</td>
<td>3.66</td>
<td>-0.36</td>
<td>-0.20</td>
<td>0.68</td>
</tr>
<tr>
<td>IV</td>
<td>20.81</td>
<td>4.09</td>
<td>-0.57</td>
<td>0.19</td>
<td>0.67</td>
</tr>
<tr>
<td>V</td>
<td>9.95</td>
<td>2.52</td>
<td>-0.65</td>
<td>0.21</td>
<td>0.66</td>
</tr>
<tr>
<td>VI</td>
<td>12.70</td>
<td>2.69</td>
<td>0.16</td>
<td>0.36</td>
<td>-0.09</td>
</tr>
</tbody>
</table>

Conclusions can be made, based on the results indicated by the data that the exploratory factor analyses are reliable and valid. Factor analysis was also used to collate factors as related variables for the JDS (Ferguson and Takane, 1989). Indicated in the table above kurtosis measures the peakness or flatness of a distribution when compared with the normal distribution. The negative value (-0.20) of factor III indicates a relatively flat distribution.

Alpha coefficients (α) are calculated in each case to determine the internal consistency of the measuring instruments as well as the inter-item correlation coefficients between factors. From the results conclusions can be made that empowerment, feedback and significance can be viewed as reliable and valid factors.
All tests of structural equation modelling sets of parameters that tests in a step-by-step order goodness of fit of theoretical models by increasing restrictions in every step. Hypothesised relationships are tested empirically for goodness of fit with the JDS data. This goodness of fit indices is reported in Table 6.6 below.

**Table 6.6 – Goodness of fit statistics for the motivational job characteristic model**

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 6 factors</td>
<td>4 277.73</td>
<td>21.07</td>
<td>-0.36</td>
<td>-0.43</td>
<td>0.00</td>
<td>0.17</td>
</tr>
</tbody>
</table>

It can be seen from Table 5.6 that the RMSEA value indicates that the data shows poor fit to the model with a value of 0.17. Arbuckle and Wothke (1999) state that a model with a RMSEA value greater than 0.10 cannot be employed. Poor fit can also be seen in the Comparative Fit Index (CFI). Browne and Cudeck (1993) regard this value as a poor fit and values approximating 1 will indicate a very good fit. Negative values for NFI and TLI are also indicative of poor fit. The $\chi^2$ based goodness of fit statistic is sensitive to the dimension of the moment matrix and the sample size that results in an unreliable measure of model fit with a large set of data. The NFI value of less than 0.90 indicates that it can be improved substantially. This motivational job characteristics model is an explorative model with poor fit statistics as one part of a holistic work-wellness model.

The structural model in Figure 6.2 show the motivational job characteristics model as a part of the holistic work-wellness model. The motivational job characteristics model and data has been tested with AMOS Basic and indicated poor fit indices for an insurance organisation.
Conclusions in terms of motivational job characteristics can mainly be based on the results from the factor analysis and the goodness of fit statistics. Fit indices confirm that the six-factor motivational job characteristics model cannot be used as an independent model in the insurance organisation. However, feedback, significance and empowerment are reliable factors found in the factor analysis as motivational job characteristics, but the goodness of fit statistics indicates poor fit for an independent job characteristics model in an insurance organisation. Subsequently this does not validate hypothesis 2 as practically significant positive relationships are not confirmed by all the job characteristic factors, of the JDS for employees in an insurance organisation.

Figure 6.2 – Motivational job characteristics model

6.1.3 Descriptive statistics, reliability and goodness of fit of the Orientation to Life Questionnaire (OLQ)

The Orientation to Life Questionnaire (OLQ) was used to measure sense of coherence (Antonovsky, 1987). Antonovsky was convinced that sense of coherence was a very major determinant of maintaining one’s position on the dis-ease/health-ease continuum and of movement toward the healthy end. Neither this researcher nor any others have as yet directly submitted this model to empirical testing. Sense of coherency’s contribution towards a
holistic work-wellness model is investigated in relation to wellness factors and job characteristics. A confirmatory factor analysis on the original scales indicated overall sense of coherence with $\alpha = 0.81$, manageability ($\alpha = 0.58$), meaningfulness ($\alpha = 0.54$) and comprehension ($\alpha = 0.68$). Further factor analysis was explorative in nature. The extraction method was used to determine the factor structure is that of principle-axis factoring. Oblimin with Kaiser normalisation was used as a rotation method. Exploratory factor analyses of the OLQ have yielded three factors as indicated in Table 6.7 below. Rotated factor structures are reported. Results regarding the factor structure for the OLQ are reported as adequate. Conclusions from the results can be made that only two of the three factors are reliable. The three factors are reported as follows:

- **Factor I – Manageability** is formed out of items that suggest the extent to which people view experiences in their lives as manageable. This factor consists of items 2, 3, 5, 6, 9, 12, 15, 18, 19, 21, 24, 25, 26, 28 and 29. Item 8: “Until now your life has had clear goals and purpose” and item 22: “You anticipate that your personal life in the future will be full of meaning and purpose” also loaded onto factor I but the researcher found the relations with factor II variables more meaningful. This is why it is included on factor II.

- **Factor II – Meaning** has to do with the extent to which life is viewed as meaningful and significant. Items that load on this factor are 1, 4, 8, 11, 13, 14, 16, 20, 22, 23 and 27.

- **Factor III – Comprehension** is formed out of three items, namely 7, 10 and 17. This factor measures the perception of the extent to which the world is viewed as ordered, predictable and as clearly observable. Item 7: “Life is full of interest” also loaded on factor I but it has greater meaning loaded onto factor III as an item that measures comprehension.
Table 6.7 – First-order rotated factor structure for the various items of the OLQ

<table>
<thead>
<tr>
<th>Factor/ Item</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>0.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>0.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>0.56</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.47</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>0.22</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-0.41</td>
<td></td>
<td>0.30</td>
</tr>
<tr>
<td>9</td>
<td>0.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>0.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>-0.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td>0.72</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>0.62</td>
</tr>
</tbody>
</table>
It can be seen from Table 6.7 that the 29 items of the OLQ loaded onto three factors. Although the present factor analysis indicates different items that loaded onto the factors, these are all in line with the theory of Antonovsky (1987, 1993).

The mean, standard deviation, skewness and kurtosis are the appropriate descriptive statistics for the three factors. In each case alpha coefficients ($\alpha$), are also calculated to determine internal consistency of the measuring instruments as well as the inter-item correlation coefficients. Descriptive statistics relating to sense of coherence are reported in Table 6.8 below.

### Table 6.8 - Descriptive statistics for the various factors of the OLQ

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>67.24</td>
<td>9.30</td>
<td>-0.08</td>
<td>0.06</td>
<td>0.71</td>
</tr>
<tr>
<td>II</td>
<td>38.71</td>
<td>6.58</td>
<td>-0.24</td>
<td>0.07</td>
<td>0.77</td>
</tr>
<tr>
<td>III</td>
<td>9.40</td>
<td>3.33</td>
<td>0.18</td>
<td>-0.29</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Conclusions can be made based on the results indicated by the descriptive statistics. Descriptive statistics for the various factors of the OLQ are reported in Table 6.8, which confirm the theory of sense of coherence (Antonovsky, 1987).

Antonovsky (1987) reported internal consistency and reliability coefficients ranging between 0.84 and 0.93. The consistent high internal reliability has been found in a variety of populations in different culture and language groups. Studies on the test-retest reliability produced coefficients were found to be up to 0.97. It can be concluded that the OLQ is a reliable measuring instrument of sense of coherence.

With the use of AMOS Basic the data of the sample are subjected to a series of goodness of fit measures to calculate goodness of fit. In order to fit the three sense of coherence factors structural equation modelling (SEM)
methods were used with the maximum likelihood method of the AMOS programme (Arbuckle, 1999). Fit indices are reported in Table 6.9 for the sense of coherence model.

Table 6.9 – Goodness of fit statistics for sense of coherence

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 3 factors</td>
<td>10 387.54</td>
<td>25.77</td>
<td>-0.47</td>
<td>-0.51</td>
<td>0.00</td>
<td>0.19</td>
</tr>
</tbody>
</table>

It can be seen from Table 6.9 that the RMSEA value (0.19) point out that the data shows poor or hardly any fit to the model. Arbuckle and Wothke (1999) state that a model with a RMSEA value greater than 0.1 cannot be used. The Comparative Fit Index (CFI) also indicates poor fit. Browne and Cudeck (1993) regard the CFI value of 0 as a poor fit and values close to 1 will indicate a very good fit. Browne and Cudeck (1993) regard this value as a poor fit and values close to 1 will indicate a very good fit. Negative values for NFI and TLI is indicative of poor fit. The NFI value of -0.47 < 0.90 indicate that it can be improved substantially. This sense of coherence model is an explorative model with poor fit statistics, but with significant factor analytical structures to contribute to a holistic model. This extracted model can be used as part of an explorative study to develop a holistic work-wellness model.

Conclusions in terms of sense of coherence can be made based on the results that indicate poor goodness of fit statistics. Fit indices indicate that the three-factor sense of coherence model cannot be used as an independent model in the insurance organisation. However, meaning and manageability are reliable factors found in the factor analysis but the goodness of fit statistics indicates poor fit for a sense of coherence. Figure 6.3 below indicates the sense of coherence model to be used as part of a holistic work-wellness model although it does not confirm (hypothesis 3) practically significant
positive relationships between all the sense of coherence factors, as an independent model for employees in an insurance organisation.

**Figure 6.3 – Sense of coherence model**

![Sense of Coherence Model](image)

6.1.4 Descriptive statistics, reliability and goodness of fit of the Maslach Burnout Inventory – General Survey (MBI – GS)

The Maslach Burnout Inventory – General Survey (MBI–GS) was used to measure burnout in conjunction with engagement. The MBI–GS dominates the field of burnout research. The psychological state of burnout is well researched in the dual-process model or also referred to as the Comprehensive Model of Burnout and Work Engagement (Schaufeli and Bakker, 2001).

The MBI–GS was analysed in order to determine the factor structure of the instrument. All the calculations were done by means of the SPSS Windows program to determine the underlying factor structure. The extraction method used to determine the factor structure is that of principal-axis factoring. Oblimin with Kaiser normalisation was used as a rotation method. The factor analysis was explorative in nature. An exploratory factor analysis found four burnout factors. Table 6.10 indicates the factor structure with the weights of each item.

The burnout factors are reported in Table 6.10 below, which confirm the general theory (Schaufeli and Bakker, 2001). In a sample of senior managers in a manufacturing industry, Rothmann and Jansen van Vuuren (2002) found
satisfactory alpha coefficients: Exhaustion as 0.79; Cynicism as 0.84 and Professional Efficacy as 0.84.

Table 6.10 – First-order rotated factor structure for the various items of the MBI–GS

<table>
<thead>
<tr>
<th>Factor/Item</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>0.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>0.23</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>0.20</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td>0.89</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>0.26</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td>0.56</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td>0.49</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td>0.37</td>
</tr>
</tbody>
</table>

From the results conclusions can be made that the items loaded meaningfully onto four factors. These four burnout factors were rotated to get greater clarity.
on the loadings. All the item loadings and factors can be interpreted and reported as follows:

- **Factor I – Exhaustion** is formed out of items that suggest a reduction in the emotional resources of an individual. Respondents report that they feel drained or used up and physically fatigued.

- **Factor II – Cognitive Weariness** has to do with the lack of attention and incidence of errors at work. The item: “I find it difficult to focus my attention on my job” also loaded onto the exhaustion factor with a weight of 0.26. This item related meaningfully to the cognitive weariness factor.

- **Factors III – Professional Efficacy.** If this factor is low it measures the feeling of being unable to meet clients’ needs and to satisfy essential elements of job performance. The item: “In my opinion I am good at my work” also related to the cynicism factor with a weight of 0.26. This item relates best with the professional efficacy factor.

- **Factor IV – Cynicism** clustered all the items concerned with mental distance. This factor also refers to not being committed to an organisation.

Results and conclusions regarding the factor analysis for the MBI–GS are reported in Table 6.11. Conclusions can be made, based on the results indicated by the data. Descriptive statistics for the various items of the explorative factor analysis are reported in Table 6.11 below.

**Table 6.11 – Descriptive statistics for the various factors of the MBI–GS**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>22.83</td>
<td>8.83</td>
<td>-0.39</td>
<td>0.68</td>
<td>0.83</td>
</tr>
<tr>
<td>II</td>
<td>10.50</td>
<td>5.94</td>
<td>0.40</td>
<td>0.32</td>
<td>0.76</td>
</tr>
<tr>
<td>III</td>
<td>23.64</td>
<td>4.62</td>
<td>0.99</td>
<td>0.56</td>
<td>0.72</td>
</tr>
<tr>
<td>IV</td>
<td>5.46</td>
<td>3.89</td>
<td>0.12</td>
<td>-0.12</td>
<td>0.60</td>
</tr>
</tbody>
</table>
It can be seen from Table 6.11 that most of the burnout factors are reliable. Cronbach alpha coefficients ($\alpha$), are calculated in each case to determine the internal consistency of the measuring instruments. The results indicate that alpha coefficients for exhaustion, cognitive weariness and professional efficacy are > 0.65. It can be concluded that these factors are reliable and valid measures. This finding is similar to the research study among 1 177 educators. When they studied a model of work related well-being, Jackson and Rothmann (2005) found in this study that burnout consists of exhaustion and cynicism.

In order to test the data for goodness of fit for a four-factor burnout model, structural equation modelling (SEM) methods were used. Hypothesised relationships are tested empirically for goodness of fit with the explorative burnout model and the data of the sample. This goodness of fit indices is reported in Table 6.12 below.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 4 factors</td>
<td>1 005.48</td>
<td>4.85</td>
<td>0.85</td>
<td>0.78</td>
<td>0.80</td>
<td>0.76</td>
</tr>
</tbody>
</table>

As indicated in Table 6.12 a large $\chi^2$ relative to the $\chi^2$ degrees of freedom indicates a need to modify the mode to fit the data better. The $\chi^2$/df value of 4.85 as well as NFI, TLI and CFI less than 0.90 indicates misfit with the data. Results from the table above show that the proposed four-factor model fit indices NFI, TLI and CFI are unsatisfactory. All fit indices have values lower than 0.90 (Hoyle, 1995). While, Hu and Bentler (1999) and Neilands (2000) recommend a TLI value of 0.95 or higher. However, Schumacker and Lomax (1996) contend that values close to 0.90 reflect a good model fit. However the more important RMSEA value (0.76) indicates good fit for the four-factor burnout model. Goodness of fit statistic results from Table 6.12 indicates that a four-factor model (see figure below) can be used to define the component of
burnout in an insurance organisation. This forms part of the Comprehensive Model of Burnout and Work Engagement and verifies the theory (Schaufeli and Bakker, 2001).

Conclusions in terms of burnout can be made based on the results that indicate good fit statistics. Fit indices indicate that the four-factor burnout can be used as an independent model in the insurance organisation. Only the cynicism factor is found not to be a reliable factor but the goodness of fit statistics indicate good fit for the burnout model in an insurance organisation. Figure 6.4 below indicates the burnout model that can be used as part of an explorative holistic work-wellness model. This part of the research confirms hypothesis 4 with practically significant positive relationships between all the burnout factors, of the MBI for employees in an insurance organisation.

Figure 6.4 – Burnout model

Exhaustion
Cynicism
Professional Efficacy
Cognitive Weariness

Burnout

6.1.5 Descriptive statistics, reliability and goodness of fit statistics of the Utrecht Work Engagement Scale (UWES)

The Utrecht Work Engagement Scale (UWES) incorporates engagement as part of the Comprehensive Model of Burnout and Work Engagement (Schaufeli and Bakker, 2001). Incorporating engagement in the present study aims at developing the above-mentioned model as a work-wellness model. Findings and conclusions in terms of the validity and reliability of the UWES are reported based on the results in Table 6.13. The UWES was analysed to
determine the factor structure of the instrument. All the calculations were done with SPSS programming to determine the factor structure. An exploratory factor analysis found two engagement factors. Table 6.13 indicates the factor structure with the weights and loadings of each item.

Table 6.13 – First-order rotated factor structure for the various items of the UWES

<table>
<thead>
<tr>
<th>Factor/ Item</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>0.48</td>
<td>0.27</td>
</tr>
<tr>
<td>31</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>0.74</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>0.71</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>0.68</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>0.48</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>0.42</td>
</tr>
</tbody>
</table>

It can be seen from Table 6.13 that the items of the UWES loaded onto two factors, which confirms the theoretical work of Schaufeli and Bakker (2001). From the results conclusions can be made that the items loaded as follows:

- Factor I – **Vigour** is understood as high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, not being easily fatigued, and persistence even in the face of difficulties. The item: “When I get up in the morning, I feel like going to work.” related also to the dedication factor with a weight of 0.27. A meaningful and higher loading on the vigour factor supports the theory better.
• Factor II – Dedication is characterised by deriving a sense of significance from one’s work, by feeling enthusiastic and proud about one’s job, and by feeling inspired and challenged by it. Items that load onto this factor are interrelated (Ferguson and Takane, 1989).

Cronbach alpha coefficients (α) are calculated in each case to determine the internal consistency of the measuring instrument. The inter-item correlation coefficients were used to assess the reliability and validity. The engagement factors are reported in Table 6.13 above, which confirm two factors excluding the absorption factor found in previous research (Shaufeli, 2004). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to analyse the data. The descriptive statistics are reported in Table 6.14 below.

Table 6.14 – Descriptive statistics for the various factors of the UWES

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>18.35</td>
<td>3.78</td>
<td>-0.24</td>
<td>0.07</td>
<td>0.59</td>
</tr>
<tr>
<td>II</td>
<td>28.63</td>
<td>6.19</td>
<td>0.18</td>
<td>-0.29</td>
<td>0.67</td>
</tr>
</tbody>
</table>

In order to test the factorial validity and construct equivalence of the burnout factors, structural equation modelling (SEM) methods were used with the maximum likelihood method of the AMOS program (Arbuckle and Worhke, 1999). Among the fit indices produced by the program is the chi-square, which is the test of absolute fit of the model. Additional goodness of fit indices such as the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Means Square Error of Approximation (RMSEA) were used in this section of the study. The benefit of using more than one fit indices are that the statistical analysis are improved with more than one indicator for goodness of fit. These fit indices are reported in Table 6.15 below.
Table 6.15 – Goodness of fit statistics for hypothesised UWES

<table>
<thead>
<tr>
<th>Model</th>
<th>( \chi^2 )</th>
<th>( \chi^2/df )</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 2 factors</td>
<td>48.06</td>
<td>1.92</td>
<td>0.91</td>
<td>0.93</td>
<td>0.95</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Results from Table 6.15 show that the proposed two-factor model fits the data best. Kline (1998) and Neilands (2000) have argued that the \( \chi^2 \) statistic usually becomes significant even though the difference between observed and model implied covariance is slight. All fit indices have values higher than 0.90 and the RMSEA is 0.09. MacCallum, Browne and Sugaurara (1996) elaborated on cut-off points and noted that RMSEA values ranging from 0.08 to 0.10 indicate medium fit, and those greater than 0.10 indicate poor fit.

Statistical results from Table 6.11 indicate that a two-factor model (see Figure 5.5 below) can be used to define engagement at work. The engagement model in this study is a slightly revised Comprehensive Model of Burnout and Work Engagement, which exclude the absorption factor found in other studies (Schaufeli and Bakker, 2001).

Conclusions in terms of the engagement model can be made based on the results that indicate medium to good goodness of fit statistics. Fit indices indicate that the two-factor engagement model can be used as an independent model in the insurance organisation. Dedication is a reliable factor found in the factor analysis and the goodness of fit statistics indicate good fit for an engagement model in an insurance organisation. Figure 6.5 below indicates the engagement model to be used as part of a holistic work wellness model. This part of the research does confirm (hypothesis 5) as practically significant positive relationships between all the burnout factors, of the MBI for employees in an insurance organisation.
6.2 RELATIONSHIP BETWEEN WELLNESS, MOTIVATIONAL JOB CHARACTERISTICS, SENSE OF COHERENCE, BURNOUT AND ENGAGEMENT FACTORS

A conceptual and hypothesised model that explains work wellness is developed and tested in this study. The holistic work-wellness model is compiled based on the theoretical and explorative research done. The five submodels were tested for goodness of fit against the data of the sample. All the submodels including the wellness, motivational job characteristics, sense of coherence, burnout and engagement were fitted to the SPSS data. The submodels were then combined into a larger holistic model. AMOS Basic programming was used due to the large number of data. AMOS Graphics cannot be used in studies with large amounts of data.

It was noted at the outset that the relevant variables contained a number of missing values. As a result, the MVA procedure in SPSS was used to impute missing values via the EM algorithm using as input variables all the survey question responses, i.e. all the variables appearing in the four submodels. Fits to the four sub models were carried out on both data sets, with and without missing value imputation. The holistic SEM was only fit to the dataset involving the MVA imputed values for missing values. The proposed holistic work-wellness model including the hypothesised relationships between motivational job characteristics, burnout, engagement, sense of coherence and wellness is displayed as latent variables.
From the literature that was referred to in Chapter 3, it is hypothesized that motivational job characteristics influence states of engagement and burnout that impact on wellness. Engagement influences wellness in a positive manner and burnout has a negative relation to wellness. Sense of coherence has a positive relation to wellness (see Figure 6.6 below).

**Figure 6.6 – High-level holistic work-wellness model**

The conceptual and hypothesised model in Figure 6.6 above is further developed and researched in AMOS by introducing the first-order factors obtained from the factor analysis. By introducing the explorative factor structures to the latent variables in the holistic work-wellness model fit indices were developed to test for goodness of fit of the hypothesised holistic model. Subject to certain modifications described below, a numerically stable fit to the data was obtained. The values were prescribed for important values in the model in order to achieve identifiably of the model. These values do not affect the model fit. The proposed model was tested with Structural Equation Modelling (SEM) analysis. The results are displayed in Table 6.16 below.
Table 6.16 – Goodness of fit statistics for hypothesised holistic work-wellness model

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: 34 factors</td>
<td>42 902.10</td>
<td>2.96</td>
<td>0.22</td>
<td>0.30</td>
<td>0.30</td>
<td>0.05</td>
</tr>
</tbody>
</table>

From Table 6.16 the goodness of fit indices indicate a good fit with some room for improvement. The dimension of the sample moment matrix is large and consequently the chi-squared discrepancy function gives an unfairly negative assessment of the validity of the model. According to the RMSEA criterion, the results support the acceptance of the model. Results indicate a model that is acceptable on the RMSEA criterion. All except two of the regression weights and covariances (chosen automatically by the model) were statistically significant. The model parameters that were statistically insignificant were the negative relationship between burnout and wellness with a $p$ value of 0.09, and the hypothesised positive relationship between engagement and wellness with a $p$ value of 0.08. Bootstrap imputations to check the standard errors upon which these statistical inferences have been drawn indicate that the asymptotic results are reliable. A path diagram, in which cause and effect arrows flow from the exclusive latent variable back to the primary factors, was used. Values had to be prescribed for a limited set of variances in order to achieve identification as follows:

- $err_1_e82$ : error on the relationship between realistic beliefs and wellness, from sub-model 1 (wellness model),
- $err_1_e88$ : error on the relationship between social identity and wellness, from sub-model 1 (wellness model),
- $err_2_e2$ : error on the relationship between empowerment and the item “To what extent do managers or co-workers let you know how well
you are doing in the job”, from sub-model 2 (motivational job characteristics),

- err_4_e7 : error on the relationship between dedication and the item: “I am proud of the work that I do”, from sub-model 5 (engagement model)
- err_e211 : error on the relationship between wellness and engagement and burnout and sense of coherence, in the holistic work wellness model.

The following regression weights were also provided with fixed input values in order to achieve identification:

- err_1_e82 : error on realistic beliefs from the wellness model and
- err_1_e88 : error on social identity from the wellness model.

Specifications of the SEM in AMOS Basic refer to the holistic model with unstandardised output, with no bootstrap run. Directional arrows are as given in Figure 6.7. The SEM between the latent variables including the primary factors is reported in the holistic work-wellness model.

Conclusions in terms of a holistic work-wellness model can be made based on the results that indicate good fit statistics (RMSEA = 0.05). Goodness of fit indices support the appropriateness of the thirty four-factor wellness model as an interdependent work-wellness model in the organisation under consideration. However, further modifications can be implemented, based on modification indices. The use of modification indices and critical ratios to explore autocorrelation among error items will only fine-tune the fit.

Some unreliable factors in the holistic model are retained to experiment with the holistic construction of the model although in the specific sample and study some of it should have been excluded. This was not done since an explorative research approach was followed. Figure 6.7 below indicates the hypothesised relationships between motivational job characteristics, engagement, burnout, sense of coherence and wellness. This part of the study completes and confirms (hypothesis 6), that practically significant
positive relationships exist between all wellness factors, motivational job characteristics, the individual disposition of sense of coherence and the psychological state of engagement as well as a practically significant negative relationship with the burnout state of employees in an insurance organisation.
Figure 6.7 – Holistic work-wellness model
6.3 CHAPTER SUMMARY

In this chapter the results of the empirical study were reported and discussed. Firstly, the factor structure and analysis are reported for each measuring instrument. Thereafter the descriptive statistics and reliability coefficients of the consecutive instruments were discussed. The relationships and the goodness of fit for each explorative hypothesised model are discussed. The wellness, engagement and burnout models indicated good independent fits. The motivational job characteristics and sense of coherence models do not indicate good fit indices. All independent models are meaningfully used in a holistic work-wellness model with good fit indices.

In Chapter 7 the conclusions will be made on the basis of the literature findings and the empirical investigation. Recommendations for the organisation and for future research will also be made.
CHAPTER 7

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

In this chapter conclusions are made concerning the findings of the survey of literature and the results of the empirical study. Furthermore, the limitations of the present study are discussed and recommendations are presented to the life insurance company for consideration and for future research.

7.1 CONCLUSIONS

At first a literature study was conducted and individual dispositions, organisational factors and wellness was conceptualised into a preliminary work-wellness model. A measuring battery was compiled, based on the proposed holistic work-wellness model, and a voluntary sample was identified. The measuring battery was administered and the data analysed. The sample was given feedback on their results and the data was integrated. Based on the results of the data analyses, certain conclusions are made. Conclusions and recommendations are made to the organisation as well as for future research.

Conclusions are made in the following sections in respect of the specific literature objectives and the empirical findings obtained in the present study. This is made in respect of the concepts of wellness, organisational factors (motivational job characteristics) and individual dispositions (burnout, engagement and sense of coherence).

Wellness formed the central theme of the literature and empirical study. Different researchers struggle to holistically define wellness as an integrated systemic construct that promotes and optimises human potential. Different wellness models exist and emerge in the quest to understand wellness from the positive and psychofortogenic paradigm as well. In these endeavour psychologists need to understand illness as the opposing side of the
behavioural continuum. A survey of literature indicates that since the First World War much of psychology has single-mindedly focused on a pathological model devoted to healing and to bringing about “normality”. This medical-remedial model only focuses on and explores the domain of illness, abnormality and behavioural disorders and by doing so neglects the positive side of human potential development. Conventional medical treatment of disease in humans assumes a curative perspective, removing illness and restoring health to its normal functioning. But the optimisation of human potential leading to states of wellness is equally important in human science research. This brought about the movement for positive psychology and in South Africa what is known as psychofortology.

According to the literature and the results of the empirical study presented in the research project under consideration, wellness can be described as an extension of health, as a process and state towards maximum human functioning that involves multiple factors. According to some researchers certain life domains should also form part of holistic wellness (i.e. spiritual, occupational, coping) and need to be included in definitions for wellness. It therefore can be summarised as the continuous and deliberate process by which people are actively involved in balancing and enhancing their overall well-being in all domains of life – intellectually, physically, socially, emotionally, occupationally and spiritually. Wellness therefore is a life orientation toward optimal health and well-being.

Several models were developed to explain the interdependence of subsystem factors in relation to wellness. Myers and Sweeney (2005) developed The Indivisible Self: An Evidence-Based Model of Wellness that consists out of 17 wellness and 4 contextual factors. An explorative factor analysis on the 5F-Wel revealed a total of 19 overall wellness factors. This principal-axis factor analysis confirmed the factor structure of previous wellness research with 9 factors being reliable with alpha coefficients exceeding 0.65. Structural equation modelling statistics on the wellness model confirmed the 19-factor model with acceptable goodness of fit indices. The wellness data confirms the
independent wellness model for the insurance organisation with a RMSEA value of 0.07. Browne and Cudeck (1993) regard this value as a reasonable error of approximation. It can be concluded that The Indivisible Self: An Evidence-Based Model of Wellness (and the 5Factor Wellness Inventory) can be used as an independent model to explain wellness for an insurance organisation.

However a common element that is lacking in holistic wellness models is the application of it in a working context. Furthermore, although these models mention wellness states in various life domains they do not specifically mention organisational factors and individual dispositions that work-wellness models display. Holistic work-wellness models that explain employee wellness could not be found in the literature study. The present research then set out to investigate the relationships between wellness states, individual dispositions and organisational factors and its interaction in a work-wellness model as the result. In order to achieve this were motivational job characteristics, sense of coherence, engagement and burnout included in the research.

**Motivational job characteristics** formed the organisational factor that was employed in this research. Positive organisational behaviour approaches suggests that work effectiveness will be enhanced if employees have jobs that are not simple and repetitive. This approach states that job characteristics should be complex, meaningful and challenging for employees. Csikszentmihalyi (2002) support this by stating that employees will experience flow if their skills are fully utilised and the job is challenging. From the literature research it is clear that both a systems and behavioural approach apply to wellness in relation to motivational job characteristics.

The Job Diagnostics Survey (JDS) is used to diagnose existing jobs prior to work redesign, indicating whether job redesign should proceed and to evaluate the effects of redesign to analyse the impact or effect of redesign (Hackman and Oldham, 1975). The aim of this study was to integrate the relationship between wellness and motivational job characteristics into one
holistic model. The literature and empirical study confirmed a positive relationship between the variables.

Empirical research by means of an explorative factor analysis revealed six job characteristics. Assessment of reliability of Cronbach alphas for the six job characteristic factors produced three significant factors namely feedback, empowerment and task significance. Structural equation modelling produced (RMSEA = 0.17) poor goodness of fit indices for this motivational job characteristics model. Indices of fit confirm that the six-factor motivational job characteristics model cannot be used as an independent model in the insurance organisation. Subsequently this did not validate the practically significant positive relationships in the job characteristics model. However these findings were still useful in an explorative study that focuses on the development of a holistic work-wellness model.

Individual dispositions as other important constructs in the study that form part of the holistic work-wellness modelling can be described in terms of certain personality characteristics and individual outcomes. Sense of coherence, engagement and burnout were included in the study to address this need. It is hypothesised that these individual dispositions relate to and impact on the wellness of employees in an insurance organisation.

In 1979 Antonovsky developed the salutogenic model which explained why people who are confronted by a stressor, which results in a state of tension that must be dealt with, can produce pathological, neutral or salutary outcomes, depending on the adequacy of their tension management. The factors that determined this tension management was the key question that Antonovsky investigated and he suggested that the sense of coherence concept could provide the answer to this question.

**Sense of coherence** is described by Antonovsky (1987) as a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of self-confidence, that: (i) one's internal and external
environments are predictable, structured and explicable (comprehensive); (ii) the resources are available to one to meet the demands posed by these stimuli (manageable); and (iii) these demands are challenges worthy of investment and engagement (meaning). Someone with a high sense of coherence applies a wide range of coping strategies in a flexible manner. This person understands the nature and dynamics of chronic stressors better and experiences them as manageable.

Empirical statistical results indicated that the three factors meaning, comprehension and manageability are confirmed for the sense of coherence construct. A principle factor analysis confirmed reliable Cronbach alphas for meaning and comprehension in the present research. Structural equation modelling proved that the sense of coherence model could not be used as an independent model due to unacceptable goodness of fit statistics. Indices of fit indicate that the data do not fit the model for an insurance organisation. However, sense of coherence is still useful in an explorative study to develop a holistic work-wellness model. A strong sense of coherence can be hypothesised to help employees to face stressful situations and to handle complex tasks because demands from the environment are understood and believed to be under their personal or significant others' control. They are likely to regard the tasks as challenging and significant enough to spend energy on. It can be described as the characteristic inherent to individuals, which assists them in their interaction with their work-environment and situations that might arise as a consequence thereof.

Engagement is considered to be the direct opposite of burnout in a working environment. This individual dispositional factor is indicative of total concentration, high energy and occupation when being busy with work. Harter, Schmidt and Keyes (2004) describe engagement as a basic need of employees that mediate the relationship between the environment and the cognitive and emotional work performance. Engagement is understood as a persistent, positive, affective-motivational state of fulfilment in employees. The UWES measured two dimensions of engagement as vigour and dedication.
The third dimension (absorption) was not confirmed as it were found in previous studies (Schaufeli, et al., 2002).

Empirical research findings in the present study validated a two-factor engagement model for the insurance organisation in South Africa. Exploratory studies confirmed the factorial validity of vigour and dedication. This finding showed internally consistent results for the two subscales. Structural equation modelling statistics (RMSEA = 0.09) confirmed medium goodness of fit for a two-factor model consisting of vigour and dedication. All indices of fit have values higher than 0.90 and the RMSEA is 0.09. MacCallum, Browne and Sugawara (1996) elaborated on cut-off points and noted that RMSEA values ranging from 0.08 to 0.10 indicate medium fit, and those greater than 0.10 indicate poor fit. The two-factor engagement model can be used independently in the insurance organisation. This supports to some extent the findings of Sieberhagen and Rothmann (2004) that absorption is best predicted by job resources and dedication as well as vigour best predicted by optimism as part of an engagement model. It can therefore be concluded that the engagement model can be used in the present study to develop a holistic work-wellness model.

Engagement as the wellness end of the continuum and burnout (illness) on the other side of the continuum cannot be divorced in terms of its structure. Burnout is therefore also important to be included in work-wellness research.

**Burnout** can be distinguished but not divorced from engagement in terms of its structure. It is for this reason that burnout is included in studies of wellness. Burnout is understood as a persistent, negative, work-related state in normal individuals that is characterised by exhaustion, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional behaviours at work (Schaufeli & Enzmann, 1998). Some other researches view it as the result of consistently unmediated or unsuccessful attempts at resolving stressors in the environment. Three dimensions of burnout are distinguished in the helping professions, namely emotional exhaustion,
depersonalisation and low personal accomplishment. For jobs other than the helping professions the dimensions of burnout are labelled as exhaustion, cynicism and professional efficacy.

Empirical statistics verified and validated burnout as a four-factor model in the present research. Researched statistics showed internally consistent results for the four-burnout subscales. Cronbach alpha coefficients ($\alpha$), are calculated in each case to determine the internal consistency. The results indicate that alpha coefficients for exhaustion, cognitive weariness and professional efficacy all exceed 0.65. It can be concluded that these factors are reliable and valid factors. Only the cynicism factor is found not to be a reliable factor. This finding to some extent supports the research of Jackson and Rothmann (2005) that burnout consists of exhaustion and cynicism as sub-factors.

Results from the structural equation modelling statistics indicate unsatisfactory fit indices, but the more important RMSEA value (0.76) indicates good fit for the four-factor burnout model. Conclusions in terms of burnout can be made based on the empirical researched results. Indices of fit indicate that the four-factor burnout can be used as an independent model. Cognitive weariness, exhaustion, professional efficacy and cynicism were found to be useful to understand the dimensions of burnout. The burnout model can also be used as part of an explorative study to develop a holistic work-wellness model. This part of the research also confirms practically significant positive relationships between all the burnout factors for employees in an insurance organisation.

7.1.1 Conclusions regarding the holistic work-wellness model

The empirical research study has shown that a positive relationship exists between sense of coherence, engagement, wellness and motivational job characteristics. A practically negative relationship exists between burnout and wellness in the holistic work-wellness model.
The negative relationship between burnout and wellness had a p value of 0.098. The positive relationship between engagement and wellness had a p value of 0.085. In some estimates the models are possibly unacceptable since a few of the fitted variances are negative. More research can be done on this and this drawback should not be regarded as a serious problem. It can probably be fixed by imposing lower bounds on the variances.

The SEM statistics confirmed acceptable goodness of fit indices with some room for improvement. The dimensions of the sample moment matrix are large and consequently the chi-squared discrepancy function gives an unfairly negative assessment of the validity of the holistic model. According to the RMSEA criterion, the results support the acceptance of the model. Researched results indicate a model that is acceptable on the RMSEA criterion. All except two of the regression weights and covariance were statistically significant. A path diagram, in which cause and effect arrows flow from the exclusive latent variable back to the primary factors, was developed.

The development of this holistic work-wellness model addresses the research problem and builds theory to holistically understand work wellness. It can be concluded that the development of this particular model can be used in the insurance organisation to implement employee wellness interventions.

The empirical research in the present study addresses the need to have a holistic understanding of employee wellness. Furthermore the development of organisational development interventions can now be based on empirical research to address stress management, health care, safety and security and lifestyle management programmes at work. The benefit to the development of such interventions lies in the fact that one does address the employee and the contextual factors as a holistic system. The literature and empirical research in the present research enrich the implementation of wellness interventions in the insurance organisation.
7.2 RECOMMENDATIONS

7.2.1 Recommendations for the organisation

Based on the literature and empirical findings in this research some recommendations for the organisation are made.

An implication of this study is that the decision to implement health and wellness programmes should include consideration of the individual characteristics, including sense of coherence, engagement and burnout. It is suggested by previous research that both employees and organisations may experience problems implementing managed health and wellness care if individuals lack essential personality characteristics. This present study indicated that organisations that lack people high in certain dispositional characteristics might have difficulty to successfully implement organisational development interventions that should improve the health and wellness status of the employees. Therefore, before the organisation used in this research specifically implements health and wellness programmes on a broader basis or in more departments in their organisation, it might prove useful to first consider the dispositional characteristics (sense of coherence, engagement and burnout) of the employees in the rest of the organisation as well, in order to determine the potential of successful implementation. However, it is not suggested that the dispositional characteristics of the individual are the only determinant of implementing successful health and wellness managed care but this study indicates that it is an important variable that might prove to be extremely useful in planning and implementing such an intervention in an organisation.

The current study was not conducted in a selection context and more research is therefore necessary to validate the use of the dispositional characteristics in a selection context. Therefore, in addition to the above recommendation, the organisations can consider validating these dispositional characteristics for selection purposes in additional studies. In this regard,
these dispositional characteristics can be used in combination with other selection measures currently used to select healthy and well employees for the organisation. This will enable the organisation to start accumulating validity data to support the use of these dispositional characteristics for selection purposes in future.

With regard to the team members already working in organisations, this study indicated that enhancing the wellness characteristics of the employee would be likely to result in an increase in their productivity, effectiveness, quality of work life and work-home life balance. It is recommended that employees should become aware of their own wellness dispositions. This could help them develop their own coping resources that could be used in order to cope with the demands of corporate working conditions. The development of the organisation will also benefit if management design and implement interventions that address the enhancement and development of employee wellness.

The organisation could contribute to the development of employee wellness by presenting developmental interventions in a consistent, structured and focused way. By providing the necessary knowledge, skills, material, instruments, support and other resources, employees will feel that the job demands are under their personal control. The fact that employees are allowed a degree of independence and freedom of choice to self-manage their own health status, is likely to lead to more autonomy at work and would also contribute to the meaningfulness component of sense of coherence.

Engagement can be developed by supplying and clarifying basic needs of employees, supporting clear outcome expectancies, giving basic material and managerial support as well as encouraging individual contributions and wellness in the workplace. Employees must be enabled to contribute to the bigger strategic purpose of the organisation (creating job significance), get regular feedback, develop caring growth stimulating relationships (belonging) and facilitate opportunities to progress and learn continuously. Stimulation of
positive emotions such as joy, interest, contentment and caring love can foster employee engagement. This will in turn influence turnover, organisational commitment, absenteeism, customer satisfaction, productivity and profit.

Burnout also influences organisational outcomes and individual health, but in a negative and eroding manner. Burnout and eventually psychological and physical ill health result from high levels of stress due to overload, inordinate time demands, inadequate collegial relationships, and lack of resources, isolation, role ambiguity as well as limited opportunities for progress. Lack of authority, lack of financial and managerial support as well as high job demands should be addressed in order to reduce burnout. Cognitive weariness, exhaustion and cynicism lead to lower levels of wellness and should be addressed by training and development interventions to empower employees to Heather stress management behaviour. The implementation of a health clinic as a strategy for health and wellness managed care will result in lower levels of burnout experienced by employees. The implementation of a health and wellness programme will make employees aware of the importance of balance and the enhancement of their fortogenic competencies.

But apart from enhancing and developing the dispositional characteristics of the employees, it is also important for the organisation to enhance the team member’s experience of role clarity at work. This will result in even higher levels of wellness, which in turn will influence the employee’s commitment (as indicated by the findings in the present study). The organisation could therefore benefit from spending time on the clarification of the roles and the redesign of jobs for employees. The implementation of key performance areas as guidelines for employees can serve as a wellness benefit. The redesign of jobs to be more empowering, with greater task significance and with regular performance feedback will also help in the development of engagement and employee wellness. This can be addressed by the translation of strategic objectives to a lower level of clearly contracted jobs that align with the departmental objectives.
In conclusion, the organisation involved in this study can focus on developing the overall wellness and the dispositional characteristics of the employees. In this regard, additional studies can also be conducted to validate the use of the wellness and dispositional characteristics as selection criteria. Implementing a strategic health and wellness programme that incorporate all factors that contribute to holistic wellness might reduce sick leave (R 5m per annum) and increase profitability. Lastly, additional time should be spent on the clarification and redesign of jobs of the employees to be meaningful and significant.

7.2.2 Recommendations for future research

Recommendations pertaining to the future research are made in this section.

- The relationship between motivational job characteristics, burnout, engagement, sense of coherence and wellness should be investigated in a variety of organisational settings and in similar, randomly drawn samples as well. This will help to confirm and generalise the findings of the holistic work-wellness model of the present research.

- The relationship between motivational job characteristics, burnout, engagement, sense of coherence and wellness can be qualitatively investigated to build theory that can lead to a South African-produced validated measure of work-wellness.

- The development and evaluation of health and wellness programmes that verify the approach and model to be followed in order to develop wellness in organisations.

- The application of The Indivisible Self: An Evidence-Based Model of Wellness as well as the 5 Factor Wellness Survey can be researched and validated for different age, race and culture groups to develop South African norms.
• The moderating influence of organisational factors and individual dispositions on wellness needs to be investigated to expand the holistic work wellness model presented in this study.

• The influence of the combination of the individual dispositional characteristics within a specific department on the effectiveness as a whole should be investigated.

• The moderating influence of burnout and engagement on the relationship between motivational job characteristics and the degree of wellness should be investigated in other organisations as well.

7.3 LIMITATIONS

The researcher experienced difficulty in finding research material from the literature to apply in the study that focused on holistic organisational wellness. Many fragmented measuring instruments and research studies were found that focus only on some aspects of wellness. Because of this the researcher experienced the limitation of applying wellness as opposed to well-being instruments in the study. Furthermore the wellness instrument was not validated in South Africa and the challenge was therefore also to experiment for the first time in South Africa with the American based 5 Factor Wellness Survey. Holistic wellness research in South Africa is also lacking. This presented the limitation of researching previous holistic work-wellness studies.

The use of only self-report data can be considered another limitation, as it is only quantitative in nature. This might have the effect of artificially inflating relationships among wellness, individual states and organisational factors. It is possible that more objective and explorative indicators of quality of work wellness might yield different results, and therefore a combination of self-report measures and other indicators in addition to that might have provided richer results.
Further research might look at the assembly of alternative structured model, and/or provide answers to questions about the admissibility of design restrictions highlighted in the model output. The latter would require imposing certain additional constraints on the model during fitting processes.

Probably because of a certain number of negative variances that were fitted, the model is in some instances judged by the AMOS software to be unacceptable. Further work into this can be done, for example by imposing certain lower bounds on the variance estimates. To date such work, however, has not yet been carried out.
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